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Audubon

M A G A Z I N E

Volume 50
Number 2

AUDUBON MAGAZINE is published bimonthly by the National Audubon Society. Subscription price \$2.50 per year for the U.S.A., \$2.75 foreign. Single copies 45 cents each.

AUDUBON MAGAZINE regrets that it cannot continue subscriptions beyond date of expiration. Checks and money orders should be made payable to AUDUBON MAGAZINE. Editorial and advertising offices, 1000 Fifth Avenue, New York 28, N. Y. Reentered as second-class matter April 29, 1942 at the Post Office at New York, N. Y., under the Act of March 3, 1879. Copyright, 1947 by the National Audubon Society.

Postmaster: If undeliverable, please notify Audubon Magazine on form 3578 at 1000 Fifth Avenue, N. Y. 28, N. Y.

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Regular \$ 5 Supporting .. \$ 50
Sustaining .. 10 Contributing .. 100
Active 25 Life 200

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*The common man's
common bird:*

The American ROBIN

By Louis J. Halle, Jr.

THE American robin (*Turdus migratorius*), because it is the most widely recognized of our birds, rarely receives the recognition that is its due. Being common, it prompts the snob in all of us to overlook its virtues. The olive-backed thrush, by contrast, is known only to connoisseurs of birds, so that by recognizing it we identify ourselves with the élite. But the robin is every man's property. It is the common man's common bird.

In all fairness I should add that snobishness is not the most important element of our human nature that makes us depreciate what is common. We have a limited appetite for the best of things. I have often thought that if oranges grew only in one or two provinces of France we would consider orange-juice the finest of all drinks, better than champagne; that if eggs had to be imported from Tibet we would find their's the choicest of choice flavors; and not only because of snobbishness. Quantity depresses our appreciation of quality, which cannot be sustained. The summer robin is a far more ordinary creature than the first wonderful robin of the spring.

Robin family by Eliot Porter



Young robin on a spruce bough, photographed by Lynwood M. Chace.

In its characteristics and family background, however, the robin is among the noblest of our birds. It is a typical thrush, belonging to the genus *Turdus*, which is the typical genus of the thrush family. Its distinguished congeners include the English blackbird (*T. merula*), quite different from our blackbirds, which some consider a respectable rival of the nightingale. The English missel thrush (*T. viscivorus*) and song thrush or "throstle" (*T. musicus*), enshrined in English poetry, also belong to this genus. It was thus a specific variety of our robin about which Browning wrote:

"That's the wise thrush; he sings each song
twice over,
Lest you should think he never could recapture
The first fine careless rapture!"

Perhaps our robin should have at least a minor heir's share in the immortality conferred on his transatlantic relations.

Our robin is the only representative of its genus in this country, but others occur throughout Central and South America, where the poets have not yet discovered them. You can quite readily recognize them all, or all those I have seen, by their resemblance to our robin in form and especially in behavior.

At the end of March, last year, B. and I (we share the observation of nature in conjugality) found ourselves, *presto chango*, out of Washington and in the tropical lowlands of Costa Rica. We were whisked out of the city as if on broomsticks, leaving the airport Saturday afternoon, descending upon Panamá as the sun rose Sunday. At midday we flew up to Costa Rica, to no one's surprise but our own.

If you have never been in the wet tropics (like B.), or if (like me) you have not seen them for years, the abundance and richness of the tropical wildlife is stunning at first view. It takes a few days to adjust yourself to the new scale. Not only are the trees enormous of girth and towering far above the level at which trees should stop, each horizontal limb and each fork is a flower garden in itself, supporting such a crowd of epiphytic and parasitic plants that the bark is quite hidden. The tree is simply a supporting framework for plant and flower arrangements. A botanist, I think, could spend his life studying the plant population of a single tree—its orchids and bromeliads, its looped and hanging lianas—without ever getting to the tree itself.

The abundance and variety of birds is on the same scale. A lily-pond that surely was not as large as the average city square had a population of water-birds that you could hardly match in the length of the Potomac River. Many of these tropical birds were quite strange to us, but we knew what we had when we came upon the little flocks of

Gray's thrushes (*T. grayi*) at the edge of the rain-forest. Here was our robin in a different dress. Though the birds were golden brown, instead of red-breasted and gray-backed, the disguise could not fool us. They flew up from the ground into the lower branches and landed with the same air of startled alertness as our robin, head very high, flirting their wings and tails at the same time that they uttered low clucking notes of excitement. Form and carriage were indistinguishable from those of our robin. Only the color was different.

B. and I went out at dusk, the first day, deliberately to hear them sing. Sure enough, it was the song of the robin, but in a different voice: softer, mellower, lower in pitch, perhaps more musical, somewhat less spirited or challenging, and interspersed with slurred call-notes that our robin does not have at all. We also heard it sing, a few days later, in Guatemala, where four other species of the genus are found. Twelve species occur in the Republic of Ecuador.

For Argentina, farthest south of all in the western hemisphere, W. H. Hudson lists five species in his "Birds of La Plata," and you can recognize our robin in his descriptions of their behavior. The dusky thrush (*T. leucomelas*) is "abrupt in its motions; runs rapidly on the ground with beak elevated, and at intervals pauses and shakes its tail." Of another Argentine species, the red-bellied thrush (*T. rufiventris*), he writes that it "runs on the ground in search of food, and when approached darts away with loud chuckling notes, flying close to the surface. They are also often seen pursuing each other through the trees with loud, harsh screams." The same behavior may be observed in our own robin any day.

Most of us know our robin only in its breeding season, that quarter or third

One of our robin's distinctions is its erect military carriage. Photograph by Allan Cruickshank.



of the year when it compromises with its natural wildness and, like city squirrels and pigeons, accepts a measure of domesticity, nesting against our houses, getting its living from our lawns and gardens. It shows its adaptiveness in this, because as soon as it is released from family responsibilities it returns to the kind of woodland life it must have led before man came to America. In late summer, fall, and winter the robins live in loose flocks within the borders of the woods and fly from you in alarm before you have got close enough to discover their presence. It is hard to understand such wild mistrust of man among birds that have recently sought the shelter of his habitation for their nesting.

The wildness, however, is native, the seasonal domesticity exceptional. I suppose that when Columbus discovered America our robin was hardly more common or more widespread than, say, the hermit thrush. It was probably known chiefly by its repeated shrieks of alarm as the first parties of explorers penetrated its woods, driving it up from the ground or the underbrush into branches overhead. The fact that the English settlers associated it with the beloved red-breast of England (quite a different bird), even to calling it by the same affectionate nickname, robin, must have had something to do with its seasonal domestication. In the settlements it was undoubtedly shot less freely on that account, although freely enough. As late as the 1870's, Dr. Elliott Coues was making a plea for legislation to abolish the open season on robins. "There would rarely if ever be difficulty in gaining permission," he wrote, "upon proper representation, to destroy the very few that might be required for scientific purposes, or to please the capricious palate of an invalid."

This custom of returning to its native wildways at the end of the breeding season accounts for a curiously misconceived human custom in the northern half of this country, that of celebrating

the return of the first robin as a sign of spring. While the robin is, in fact, the first or one of the first migrants to return, it remains in small numbers throughout the winter, except along the northern border. On the Connecticut boundary of New York I have seen my first robin of the year on January 1st. It was not the spring robin of the newspapers, however, but the winter bird that so few of us know, duller and paler of plumage, wilder in its ways. I should have to wait until the beginning of March, when it got its dark head and brighter breast, when it came to me and not I to search it out, before I could properly write to the newspapers about it.

One of our robin's distinctions is its erect military carriage. When feeding on the ground it alternates rapid movement with statuesque immobility. It has no in-between, no slow or leisurely movements. Motionless, it is the picture of alertness, erect and tense, as if listening with its whole body for some signal to be off or some prey to be seized. The head is high, the tail touches ground, the points of the wings are suspended. Then it runs rapidly, like a sandpiper, and freezes again. Or it pounces furiously with its bill on a worm in the grass. Or it takes off as suddenly as it does everything else, flying low at first, then rising to the limb of a tree, uttering a rapidly repeated cluck as it flies. On the limb it stands as erect and alert as on the ground, repeating its cluck a few times and jerking its tail at each repetition. When alarmed by danger or aroused by a rival robin its call notes rise to loud shrieks, half a dozen in rapid succession when in flight, or repeated at regular intervals when perched. Between the extremes of a cluck and a shriek, it has a complete gradation of single notes, and its repertoire includes as well a high, thin trill, and other thrush sounds. It has the habit of many ground birds, like the killdeer, of uttering a quick series of repeated notes as it takes

to the wing. At other times, when perched in a tree, it will give vent to a rapid series of call notes (*tup tup tup . . .*) that starts and ends uncertainly, an expression of sheer excitement or excess vitality, not necessarily addressed to any particular object. Sometimes a series of *tups* ends in a shriek, or a shriek is followed by a series of *tups*. The robin seems never quite master of its vitality, unless when singing.

The song is an almost continuous outpouring with little variation, delivered easily and giving the impression of confident serenity. At dawn and dusk, in season, it dominates the atmosphere, it masters the landscape, it commands; and in this the robin betrays its membership in the family of great singers. The song is not tossed out to the world on a momentary impulse, like that of the song sparrow; it is an extended preoccupation, like a religious observance. The robin is at his matins or his vespers and must not be disturbed.

The continuous caroling of robins, at dawn and in the evening, is, for most of us, the supreme expression of spring, if only by long association. It heightens the seasonal melancholy that occasionally overpowers us, especially in the first spring days, when we should feel glad and relieved at winter's passing. There have been times when I could have wished the world at an end while I listened to the spring chorus of robins in the dusk of a day that, by its passing perfection, seemed to leave nothing for hope. Yet the sadness is, I think, in the season and the time of day, rather than in the music. Perhaps the association explains Hudson's comment on the song of the dusky thrush, the peculiar charm of which, he says, is "that it seems to combine two opposite qualities of bird-music, plaintiveness and joyousness, in some indefinable manner." Both emotions are in the listener, who feels the characteristic effect of the season.

Our robin is in the second or third rank of singers, not among the great.

Its music has none of the qualities of imagination and improvisation that distinguish our mockingbird's song, for example; but then I think these are not the qualities in which our American thrushes (at least) excel. It also lacks range, in tone and phrasing alike, so that the effect is monotonous. Close up, the tone is not unmusical, but not as full and musical as that of the wood thrush, or of the rose-breasted grosbeak. Most bird songs are best heard, in any case, at some distance; for distance filters out any harshness or stridency of tone and leaves only the best. One would not want even the wood thrush at one's ear. The robin's song at a distance produces, in its tone, an effect of musical sweetness.

Even the monotony of phrasing has a pleasing quality, contributing to the impression of sadness or of sad joyfulness so much associated with the song.

It is always more interesting to make someone's acquaintance when one has known, say, his brother. That is why, on our arrival in Costa Rica, B. and I had singled out the Gray's thrush, among the host of strange and attractive species, for special attention. On our return to Washington, three weeks later, we observed the robins and listened to their singing with renewed interest and heightened appreciation. We felt that we knew them so much better, having associated so recently with one of the family.

Challenge to American Birdmen

Editorial, "Watching the British Owl," from *New York Times*, Jan. 21, 1948:

Whether it is a lark over Stonehenge, a kingfisher in Leicestershire or a swan on the Avon, birds in Britain, we think, occupy a status superior to anything they have ever attained in an America of Audubon traditions, Audubon societies and Audubon prints. Manhattan, of course, has its stealthy and impassioned bird watchers who, as individuals or in groups, make excursions to Central Park and farther afield to observe and listen. But in London and in English counties birds can be said to be more of a subject of study and knowledge than in our own well winged land. This is instanced by a recent report that the British Admiralty has loaned to a bird watcher in Sussex a "black searchlight"—an infra-red device used in war time to enable an observer to see without being seen. Equipped with this, Mr. Eric Hosking means to sit in an evening tree, for the purpose of discovering what an owl looks like when it hoots.

It is typical of the bird-minded British that they often refer to twilight as "owl-light." It is in owl-light and in later hours, when the moping and unsuspicious owl may be complaining to the moon or to the Food Ministry, that the alert Mr. Hosking will be seeking to trace those fleeting and hooting changes which alter an owl's rather immobile features in the bird's more articulate moods.

Admiralty officials, all of Britain's bird observers, all gamekeepers, poachers and even those Cambridge dons who maintain an appropriate classic interest in the bird of Pallas Athene,

will doubtless be eagerly awaiting the results of Mr. Hosking's infra-red owl watching.

Is everybody agreed that the British are more bird-minded? Or can someone defend, in about the same number of words, bird-minded America? (See reprint from *Bird-Lore*, page 126)

Animals at Play

DID you ever hear of cows and foxes playing a game? Neither did I. I've watched a good many delightful forms of the exuberance of wild things, but this is my prize to date:

We've five Jersey heifers pasturing in our meadow. One summer night, while I was standing at the pasture gate, all the heifers suddenly began to run . . . as hard as they could . . . all massed together, like thundering bison.

Lo, they were chasing something. The something was a red fox. They tore all around the pasture after him. Did he flee the pasture? Certainly not. He just went lolloping cheerfully ahead of them, grinning back over his shoulder.

Around and around and around the field went the chase. After a while the heifers, getting winded, cantered to a halt. The fox stopped too. He sat down and waited patiently. When the heifers had got their breath, they came galumphing after the fox again, and the fox—when they were nearly upon him—got blithely up and started off on a new whirl around the pasture.

The thing was plainly not a 'serious' chase, but simply a game, a rigmarole of fun. Last evening, in the dusk, I watched the game being played all over again.

It's these rare out-of-the-way happenings, like this, that make country living and country watching, I think, so enormously rewarding.

ALAN DEVOE



In Fairness to our Competitors

No member of the wild-life community is a foe—except when judged by selfish human standards

By Alexander F. Skutch

THE neighborhood where I dwell is as full of animosities as our modern atmosphere of radio waves. It seems that a majority of the neighbors bear grudges, or worse, against the others; some have openly threatened violence, or even put this threat timidly into execution. Few of the local residents spare good words for their neighbors. It appears that of all the Ten Commandments, "Love thy neighbor as thyself" is the most difficult to obey—especially in a backwoods community of scarcely literate men.

This unfortunate network of hates is in large measure the result of each man's judging his neighbor, not according to his intrinsic worth, but according to whether his activities are beneficial, or otherwise, to the former. Juan is not valued because he is sober, hard-working and minds his own business, but hated because he will not allow his neighbor's hogs to root in his bean patch. Pablo does not admire Pedro because he is even-tempered and cheerful under misfortunes, but envies him because he owns more fertile land.

A similarly tainted moral atmosphere is certain to exist whenever our judgments of others are based upon purely selfish standards. We shall dislike the British because they compete with us for foreign markets, the Swedes because they make better safety matches than ourselves. We forget all the admirable and amiable qualities of other people, and concentrate our attention upon those particular aspects of their character that annoy us.

In the great community of living things, the same selfish criterion of judgment gives birth to the same misshapen brood of hatreds. Since other living beings, no less than ourselves, regulate their lives in accordance with their own vital necessities rather than to serve the needs or pleasures of another species, it follows that they often come into competition with ourselves. The birds eat our cherries; the rabbits nibble the bark from our fruit trees; the deer browse the tender sprouts of our vegetables; the robins disturb our slumber with their caroling at dawn. If we

judge all creatures merely by the loss or annoyance they may at some time or other cause us, I fear that few will escape the stigma of "vermin."

Let us take some of our real or supposed foes among wild things and compare them with our friends, in an attempt to form a fair estimate of the character of each. In the canine tribe, the coyote is almost universally condemned as a lurking thief, whereas doubtless no other four-footed creature has received such profuse eulogy as the dog, that "friend of man." But if we consider the matter dispassionately, we shall see that it is precisely those qualities which we praise in the dog that we condemn in the coyote. The dog is intelligent; the coyote, who must live by his own wits or perish, with no man to pity and succor him in his distress, is probably a shade more intelligent than the best of our dogs. The dog is a predatory animal with a nose keen to follow a trail, and because we can put these traits to our own use when we give free rein to the predatory instincts in ourself, we praise him immoderately;

the coyote appears to be a much keener hunter than the dog, but because he hunts to feed himself and his family rather than to amuse ourselves, we vituperate him. The dog is faithful to us and we extol his virtue, but in his relations with his own kind he is promiscuous; those naturalists who know the coyote best believe that he is monogamous, loyal to his mate and a faithful provider for his family; but we have no word of commendation for his virtue. Finally, the coyote is free, calling no man master and yielding submission to none save the eternal forces of nature; while the dog, after all has been said in his favor, is a fawner and a cringer with the attitude of the slave—to my mind far less noble than the horse, which I have known to be most abominably abused, but never to cringe, to fawn or to whine. Kill the coyote if you must to save your lambs and chickens, but by all that is fair do not defame his character; he has never signed a pact to respect your livestock.

The crow is another wild creature with far more foes than friends among

Crows on this and opposite page photographed by Allan Cruickshank



mankind. Like the coyote, he is intelligent; he needs to be if he is to survive in a hostile world. One of the heaviest accusations which his enemies hurl against him is that he eats the eggs and young of other birds. That is very grave; I confess that it saddens me to see an egg-eating bird devour the eggs of another bird. You will recall that Darzee, the tailor-bird in "Rikki-Tikki-Tavi," held egg-eating in such abhorrence that he did not even want Rikki, the mongoose, to destroy the eggs of his arch-enemy, Nag the cobra. But at the same time, I cannot see that it is a whit more reprehensible for the crow, a bird, to eat the eggs and young of other species of birds, than for you, a mammal, to eat the young of other species of mammals; yet the crow is condemned on this very score at many a dinner table by those who are enjoying their veal or lamb or suckling pig. If anything, the comparison turns out in favor of the crow, who never fostered the nestlings he devours; while men commonly teach their livestock to look to them for food and protection, and later knock them on the head. The crow, as is well known, destroys much grain—although he is not so often given credit for destroying the insects that destroy the grain—and this, of course, is an unpardonable offense. We need the grain for bread, and much too is required for the manufacture of the hard liquors which help to destroy us. So kill the crow, if you must to preserve your crops—although afterwards you may have cause to regret this action—but admit at least that he is an enemy with some noble traits, not mere vermin.

Recently I re-read "Drake," by Alfred Noyes. It is a great poem with many epic qualities. It contains some curious errors in the natural history and geography of South America, but perhaps we should pardon them in a work of this character. But throughout the poem lurks one fault which to my mind prevents its achieving true epic greatness: it is too obviously and unfairly partisan.



Young coyote photographed by Lorene Squire

Whatever other shortcomings they had, the men who drove the Moors from Granada and in ridiculously small companies overthrew the empires of the Aztecs and the Incas, were obviously not cowardly. They were undoubtedly cruel; but then the Sixteenth Century was no less cruel than the Twentieth, with the difference that its cruelty was more consistent and unabashed; and the contemporary English were not a great deal better than the Spaniards in this respect. When we turn to an old epic like the "Iliad," we find no such partiality in the author. Achilles and the Greeks are brave, but so are Hector and the Trojans. Blind Homer was so impartial in his chronicle of the conflict that it is difficult to decide on which side, if either, his sympathies lay. In the "Aeneid," Aeneas is obviously the poet's favorite; but Vergil does not hesitate to apply the epithets "brave" and "handsome" to his hero's deadly enemies. It would be well if we could preserve this epic frame of mind in our thinking and writing about wild creatures, even when we must compete with them for daily bread.

Each year I must face the conflict between the friend of wildlife and the farmer. As the ears of corn fill out, the coatimundis emerge from the forest to

enjoy the milky grains. These long-tailed, long-muzzled cousins of the raccoon have pleasant, intelligent faces, and although like all of us they have their faults, there is apparently more to be said for than against them. When I see what hard, tasteless fruits they are reduced to eating during the dry season, I cannot begrudge them a little succulent maize. Each year the farm-hands say "kill the coatis." But long ago I decided that I would "plant for the coatis"—sow a little more than I needed with the fore-knowledge that they would come to eat it, then not grumble when they took their share. To patrol the field and shoot the coatis would entail a certain expenditure in labor and money, which could, I reasoned, be more profitably employed in sowing a little more, especially for them. After all, they roamed these woods long before I came. And each year they have taken about what I calculated, and left plenty for ourselves.

Since man, like every other animal, must struggle to exist, he needs to know which animals and plants are helpful to him and which tend to defeat his efforts to produce the food, clothing and housing that he requires. The accumulation of this knowledge is the province of the several branches of economic biology. But we may know that this animal causes so many millions of dollars of damage to our crops each year, and this bird aids the farmer by destroying insect pests, yet fail to know what the bird and animal are essentially, in themselves. If we limit our studies to the economic aspects of biology, we shall miss all the beauty and drama and pathos in the lives of wild creatures. And just as we must pardon many failings of our human neighbors if we wish to get along with them on any terms of civilized intercourse, so we must forgive many small depredations by our neighbors in feathers and fur, if we wish to preserve aught of beauty or woodland wildness in the land.

DO YOU KNOW YOUR RED BIRDS?

By Robert L. Pyle



Red is such a striking color that many birds are named for various red parts that caught the eye of early naturalists. The cardinal, redstart, red head, and redpoll are common examples, but any bit of red on a bird may show up in its name. See how many of the following names of American birds you can complete. All on the list below are commonly used names for the bird concerned—no obscure subspecies are included.

- | | |
|-------------------------|--------------------------|
| 1. Red | 17. Reddish |
| 2. Red-billed | 18. Pink-sided |
| 3. Red-eyed | 19. Pink-footed |
| 4. Red-faced | 20. Rosy |
| 5. Red-headed | 21. Roseate |
| 6. Red-cockaded | 22. Rose-breasted |
| 7. Red-naped | 23. Scarlet |
| 8. Red-backed | 24. Vermilion |
| 9. Red-shouldered | 25. Ruby-crowned |
| 10. Red-winged | 26. Ruby-throated |
| 11. Red-shafted | 27. Ruddy |
| 12. Red-throated | 28. Rufous |
| 13. Red-breasted | 29. Rufous-crowned |
| 14. Red-bellied | 30. Rufous-winged |
| 15. Red-footed | 31. Russet-backed |
| 16. Red-tailed | 32. Rusty |



By W. F. Willis

- | | |
|-----------------|---------------------|
| 1. O DREAM WALK | 6. EMU TO SIT |
| 2. ANT HEAPS | 7. USE LOW RATE |
| 3. INCA LARD | 8. RUBBER DITCH |
| 4. SPIES NEAR | 9. BEAGLE LAD |
| 5. HEAR A PLOP | 10. O GOVERN IN MUD |

See page 130 for answers.

CITIZEN MONGOOSE



This world-famous animal, although miscast when moved from its native environment, is a photogenic citizen of our about-to-be-new state, Hawaii



By Lewis W. Walker

ANY allusion to mongoose is bound to bring forth the two questions, "How do they kill cobras?" and, "Are two or more called mongesees?"

Of the several score of mongooses known from Africa and Asia, there are relatively few that habitually dine on poisonous reptiles. Some of the Indian species kill cobras and other venomous snakes, but their main food is made up of less dangerous quarry. On the rare occasions when they find and attack reptiles, they supposedly rely on a delicate timing to bring victory. While constantly circling they move forward and backward in a tantalizing manner, just barely entering a ring of danger.

The turning snake is kept off balance, and finally in utter desperation begins to strike time after time at the elusive mammal. During this battle the tail of the mongoose is fluffed to its fullest extent, and on some of the Indian species gives the appearance of being larger than its owner's body. When used as a bull-fighter uses a cape, there is only a slight possibility of the fangs penetrating anything other than the fluffy fur, where the poison is wasted.

Each lunge and withdrawal take energy, and before many minutes have passed the recoil of the reptile becomes laborious and slow. Most human observers seem to agree up to this point; but there are several versions of the tactics used in the closing rounds.

Some say that the mongoose senses the fatigue of its enemy and dives in

to procure a bulldog grip. Despite the thrashing actions of the reptile, the mammal is supposed to hang on until the struggle is over. Other sources—equally reliable—say that the damage is done by a series of quick bites when the reptile's head is on the ground at the termination of each strike. This divergence in tactics—the knockout, or the technical K.O.—might well be due to the individual mongoose, slugger or boxer; or it might be due to a difference of the species observed. Do you remember how Rikki-Tikki-Tavi clung to the thrashing head of his victim?

Most of the mongooses that reside on the Islands of Hawaii live their full span of life without coming into contact with snakes. One species of tiny worm snake reached the Islands fifty or sixty years ago via the roots of potted palms. However, they have thrived in only one small area on the outskirts of Honolulu, hence the mongooses that I knew were not the ones famed in fact and fiction for their snake-killing prowess.

When the first whalers stopped at the Islands, there was only one rodent that could be considered a native. Even this animal, the Hawaiian rat, was thought to have reached the Islands as a stow-away in the canoes of the early migrating Polynesians. Visiting Caucasians, however, brought new rodents which settled and thrived in this new land where the short-eared owls and small hawks were the only native predators. These birds were insufficient to hold the

Photographs by the author. Pen and ink decorations by Robert Seibert



new rodents in check, and soon hordes of rats of five different species went to work on the agricultural industry, which was then in the embryonic stage.

Various estimates were made on the damage to the crops by the rodents, and all were serious. One planter in 1880 complained of a \$10,000.00 loss. Some of the plantations were forced out of business, and dire predictions were voiced concerning the fate of all farming unless some natural check could be found to combat the unwelcome pests.

In 1883 the *Planters' Monthly*, a small trade magazine, proposed a remedy—the introduction of the mongooses. The idea caught like wildfire. Eleven hundred dollars was raised to bring seventy-two mongooses from Jamaica, where they had been liberated in 1872. However, if this plan had been delayed another ten or fifteen years, it never would have been proposed; but at the time, the Jamaica mongooses had not yet started the depredations which later brought them world-wide fame as destroyers of wildlife.

A peculiar situation already existed in regard to the wildlife of the Hawaiian Islands. Many of the highly specialized endemic birds had already passed into oblivion. Most of the species that still survived were on the way out, due not only to the depredations of the rats but also to the clearing of the land for agricultural use.

Within a few years after the introduction of mongooses, there was a noticeable decline in the numbers of rodents. In fact, the decrease of rats was proportionate to the increase of the predators. In a speech in 1884, one Hilo planter said, "... These fields, as well as the rest, were infested with rats a year ago. Now there is not a stick of rat-eaten cane, or a rat."

Five years later a few complaints were voiced that the new predators were chicken thieves, and this brought about another speech which was reprinted in

the *Planters' Monthly*: "... and they complain about the little beggars eating chicken; but they save me thousands of dollars, and I could well afford to import chickens from the coast. Besides, it is only a few chickens that they eat, and I do not believe that they destroy as many as the rats used to." This sane reasoning could be used advantageously with our own depleted predators, even though the theory was voiced seventy years ago.

The mongoose flourished; and aside from periodic attacks by sportsmen who wanted to introduce gun fodder in the form of ground nesting birds, they were left undisturbed. Each time a bounty campaign was started, the naturalists on the Islands would prove convincingly that over 80 per cent of the mongooses' food consisted of insects. To clinch the argument, they would publicize the rat populations of the various islands—those with mongooses, and those without.

Of the five species of large rodents that have settled on the islands, it is now the Norway rat that is most feared and does the most damage. This rat is almost entirely terrestrial, and usually seeks escape in holes in the ground. The other four kinds are not as destructive, and they quickly learned that mongooses cannot climb trees, so they now build their nests high in the branches. On the four islands inhabited by mongooses, the Norway variety is now actually rare; yet at one time it was the commonest rodent on the island chain. On the two islands where mongooses have not been introduced, the Norway species predominates in numbers and necessitates control with poison to keep them in check.

Early in 1944 I arrived in the Hawaiian Islands for a year's tour of duty. The sight of the mongooses brought forth some weird stories from other Marines, and they would often return to the barracks and tell of the squirrels, prairie dogs, or raccoons they had seen. Their subsequent descriptions, however,



always conformed to the Java golden mongoose—now the most commonly seen wild mammal in the Hawaiian Islands.

One of their yarns accredited the mongoose with the ability to interbreed with rats. At first I thought that this was just

another tall tale of the service, but later found that many of the island residents also believed the same absurd story. Most of the mongooses that were seen were mere flashes as they crossed a road or trail, and those shedding their tail



pelage almost down to the bone were always called "mongorats."

After I had been stationed on the island of Oahu for several months I heard of one spot where the usually shy mongoose, and man, were friends. Many years before, their host had set up a small bird-feeding station which was soon frequented by most of the introduced bird life that has become common in the islands. An observer could see shy Pekin nightingales venture from cover only long enough to grab a morsel and then disappear for the day. Blood-red cardinals from Mexico would start to feed, only to be driven off by the minahs from India; and then they, in turn, would be replaced by the large doves whose parents originally hailed from China or Australia.

For the first few months of its existence the bird station was utilized entirely by feathered visitors; but mongooses, like their close relatives the American skunks, are not animals to let

a free meal pass them by. Ed, the genial host of the station, occasionally saw a line of waving grass tips that marked the passage of one of these animals; but almost a year passed before the carnivores gathered enough courage to come out in the open for food. Gradually, however, they "caught on" to the human schedule of breakfast, and just before eight in the morning the graceful slim forms could be seen in the brush. They finally became so punctual that it was as if they had been watching a clock.

Until a certain psychological trust is established in wild animals, any attempt at taming is long and tedious. It was not until some saw the food actually served that this trust was really acquired, and then the progress was rapid. According to their host, "the tamest got the choicest cuts, so there was an incentive to be brave in spite of the nearness of man."

Month after month of careful feeding, wherein every motion had to be slow and easy, finally brought the desired results: a mongoose taking a scrap of food from a human hand. On my visits several had already gained this degree of trust; but whether they were old individuals that had been slowly tamed or whether they were young brought up in the shadow of this station will never be known.

Most mammals, with the exception of those under domestication, have a definite breeding season; and as a result young may be expected during a certain week of a certain month. In their social affairs, however, mongooses disregard calendars. Only during the fall and winter months of October, November, and December are the young entirely absent. There are probably two or three broods raised each year, with two pups to a litter. Several score of family groups have been under observation at this station, and only one female was seen with triplets.

Until about one-fourth grown, the young are kept well hidden deep in some underground burrow. They are

not brought to the station until they are well able to walk, run, and fight—and in spite of their small size they do plenty of the latter with strangely victorious results. These babies can rush and snarl at an adult two or three times their size, and even steal a tasty morsel of food with immunity. If a full-grown mongoose were to try the same tactics, a ferocious battle would surely ensue.

A chicken egg left for the mongooses always afforded a comical spectacle, and despite the rarity and value of these items during the war, the host of the mongooses always seemed to find one more when guests arrived. A mongoose first tries to bite through the shell, and if successful he laps up the contents and the game is a flop. If unsuccessful, however, the fun really starts.

After straddling the egg like a football center, he suddenly passes it between his hind legs. On the green grass it rolls and bounces, with the animal in close pursuit. This is repeated time after time, and the animal works into a frenzy of excitement. Sometimes a second mongoose intercepts the rolling object and a battle ensues, with the game being carried on by the winner. Finally success rewards the labor, as the egg on its careening journey strikes a rock and cracks. Within a few moments only

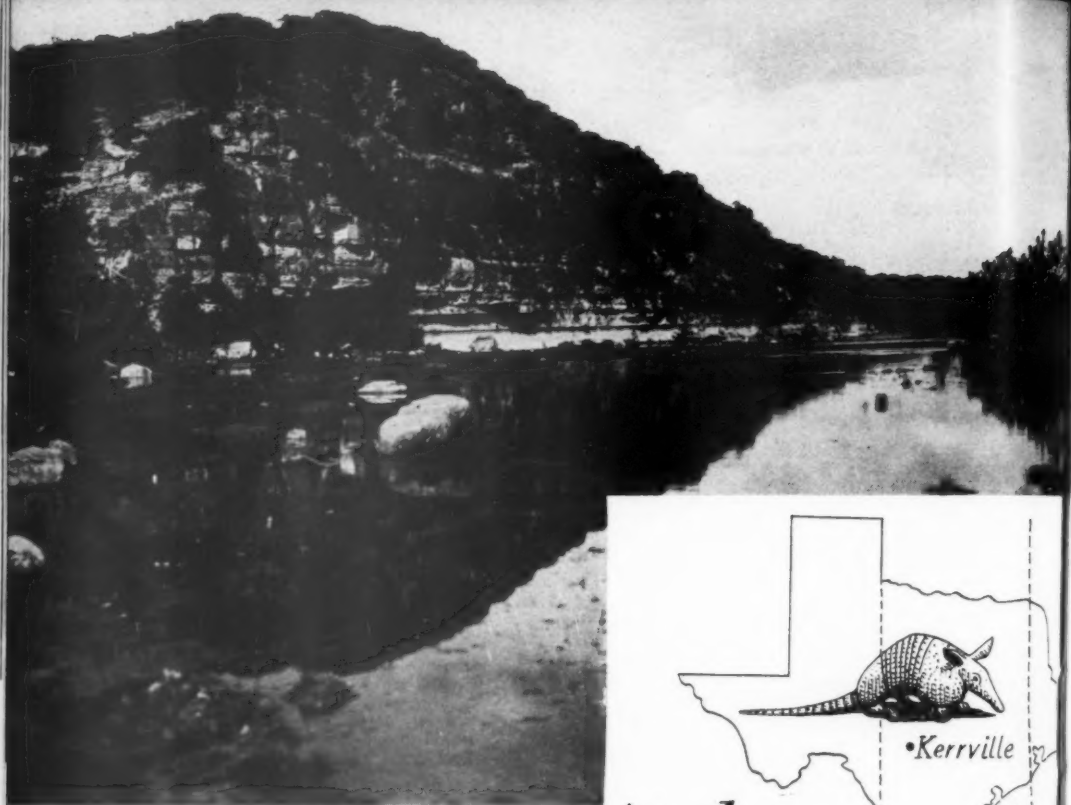
an empty shell is left.

The consensus of opinion credits the introduction of mongooses with the saving of the Hawaiian Islands for agriculture. In this isolated case the importation of foreign predators worked to advantage; but in most regions the same experiment could have had disastrous results.

Several attempts have been made to import mongooses into the United States, but a wise congressional law now keeps them out. Some of the zoos with special permits are allowed one animal for exhibition.

Each attempted importation is based on a so-called need for rodent control here at home. In years of driving the western highways I can see this need, but not by the introduction of a carnivore that was evolved to cover the needs of Java. Each year I see fewer coyotes, bobcats and skunks. The hawks, eagles and owls are also falling before murderous telescopic sights, until now the sight of one may be considered a memorable event. There is a comparison here which dates back to the early years of Hawaii's mongoose introduction—"when the decrease of rats was proportionate to the increase of predators"—but here where we wastefully butcher our predatory animals, this proven theory is working in reverse.





At the CONTINENTAL CROSSROADS *by John H. Baker*

ON the banks of the picturesque Guadalupe River, high in the Texas "hill country" of the Edwards Plateau, lies Kerrville—home of a new Audubon Nature Camp. When you visit this region, which is the favorite summer resort of the citizens of Texas, you will find new meaning in that glamorous old phrase "out where the West begins."

Kerrville lies between the 99th and 100th meridians—along that great continental crossroads that marks the meeting place of the two great physiographic

regions of our country—and so, also, of eastern and western forms of plants and animals. Expressed in terms that will bring a thrill to all especially interested in birds—it is where the Peterson "Guides" collide.

To the east and south of Kerrville is the Balcones Escarpment—a tremendous fault, or break, in the earth's crust which was caused by the birth of the Rocky Mountain system. Here the land abruptly rises from low coastal plains to limestone hills. In this land of ever-flowing springs, rivers have cut green

valleys and winding canyons. Here, among oak-clad hills and the cypress-shadowed Guadalupe, the Audubon Nature Camp of Texas will present five 2-week summer sessions in 1948.

The purpose of this camp, as of other Audubon camps, is to better equip teachers, superintendents, principals, librarians, garden and women's club conservation and bird committee personnel, youth leaders in Scout, Camp Fire Girl, YMCA, YWCA and 4H Club organizations, camp nature counselors and others interested in nature work to arouse public understanding of the value and need of conservation of soil, water, plants and wildlife; their interdependence and the relation of their intelligent treatment and wise use to human welfare.

Dr. William B. Davis, Head, Department of Wildlife Management, Texas A & M College, will direct the camp. Others on the staff are all-around naturalists, with ample training and teaching experience, capable of transmitting their knowledge and enthusiasm.

The camp is sponsored by Texas Garden Clubs, Inc., which believes that every child deserves the happiness of exploring fields and woods under com-



Camp students will be housed in comfortable Schreiner Institute buildings (dormitory shown above) equipped with electricity, lavatory and hospital facilities. The kitchen is modern with a capacity for serving an abundance of well-cooked food.

Typical Kerrville country scenes. (Opposite page, courtesy Chamber of Commerce; below, courtesy Wheelus Company.)





petent guidance and that field observation of dwindling natural resources, and an understanding of the causes, will do more than any number of lectures or printed words to engage the people in conservation measures. This public-spirited organization has generously raised a substantial fund to help the Society meet initial promotional costs.

The camp will be at Schreiner Institute, a junior college at Kerrville, easily accessible by car and bus from all principal Texas cities. Distances are 60 miles from San Antonio, 105 from Austin, 268 from Houston, 278 from Dallas, and about 600 from El Paso. The altitude above sea level is 1650 feet; the recorded average summer temperature 79.8°, with relatively cool nights and low humidity. Fifteen boys' and girls' summer camps are located at Kerrville, famous also for its many guest and private ranches. The Institute generously makes available for the camp's study purposes its 800 acres of lands north and east of Kerrville.

Sedimentary rock of cretaceous formation characterizes the Edwards Plateau. Fossil remains of shell-bearing animals are present, and those of reptiles, too. Caverns with living stalagmites and stalactites have developed in the limestone. One of the intriguing animals on the Plateau is the nine-banded armadillo; almost every rock-walled gulch along the headwaters of the Guadalupe has one or more armadillo dens. Abundant white-tailed deer supply one of the many attractive features of the Kerrville landscape. Ring-tailed cats, fox squirrels and raccoons are common. Here is the eastern limit of the pinon, pine of the southern foothills of the Rockies. The 30-inch annual rainfall seems to mark the limit of drought resistance of many eastern

The ecological and outdoor teaching approach assures over-all subject coverage. Pictures, top to bottom: ring-tailed cat, W. M. Rush; bob cat, Texas Game, Fish and Oyster Commission; raccoon, C. Huber Watson.

plants, such as box elder, which meets on the Plateau its western cousin, the bigtooth maple of the Rocky Mountain flora. Dominant trees of the limestone hills are the mountain cedar or Mexican juniper, and Spanish, dwarf post and live oaks. Mesquites mark the higher, sandy stream terraces while hackberries, pecans, cottonwoods, elms, bur oaks and cypress line the streams. The golden-cheeked warbler is found in the cedar brakes; that comical bird, the road-runner, is frequently seen; that gem of the flycatchers, the vermilion, is common. Colorful birds of the region include the canyon wren, with its marvelous tinkling song, the wild turkey, black-chinned hummingbird, orchard oriole, summer tanager, blue grosbeak and that mimic, the long-tailed chat.

When Kerrville was first settled in 1846, there were waving grasslands of bluestem and sage from horizon to horizon. The Plateau became famous as a grazing land and fences were unknown before 1883. However, progressive overgrazing by domestic livestock has so depleted the forage and the soil, increased the growth of woody shrubs and trees and reduced the available palatable grasses that camp students will be able to observe at first hand many living examples of ranges in need of greater application of conservation principles. Nowhere else in the country does one find greater degree of commercialization of wild deer and turkey; this through the annual granting of hunting privileges on the ranch lands. Such management is accompanied by an intensive program of control of predatory animals. The effect of these practices on the economy of the Plateau and on the consequent welfare of its people will furnish still another interesting topic of study for the camp student.

Texas birds, top to bottom: scissor-tailed flycatcher, photographed by Allan D. Cruikshank; black-chinned hummingbird, by Donald Dickey; vermilion flycatchers at nest by Eliot Porter.



BIRD of TRAGEDY

By John K. Terres

IN early winter, when the bitter North Wind lashes stingingly across the snow-covered fields of the northern states, it is a time for the coming of a bird whom the Eskimos of Baffin Island have named *Kowlegak*, and whom white men call the Lapland longspur. Mingling with flocks of horned larks and snow buntings on the windswept open lands of the Northeast, the dark Arctic stranger is often a lone individual, but to the prairie regions of the midwest, he comes each winter in enormous flocks. Yet, there was one spring in Minnesota when it was feared that they might never return as before.

Ecologists have pointed out that animals raising large families are necessarily doomed to high mortality and the Lapland longspur is no exception. Fated by nature to raise large broods on the Arctic tundra, enormous numbers of them are equally fated to die, else they might over-run the earth.

During the past fifty years, several great bird tragedies have occurred on the North American continent. In the winter of 1895, most of the bluebirds and tree swallows of a large section of New England perished from cold weather in the southern states, and during the cold month of May in 1907, a tremendous destruction of warblers, called the "Great Death," occurred in Wisconsin, Iowa, and Minnesota. Yet, great as were these tragedies, it is highly improbable that they equaled the appalling Lapland longspur disaster of 44 years ago.

Late on the afternoon of March 13, 1904, there was no wind to whip the snow about the tall weed stalks and dried grasses of southern Iowa where the Lapland longspurs were gathering. Here, where their legions winter each year, the lengthening day had whispered a message, calling the dark sparrowlike birds to return to their Arctic breeding grounds in the Far North.

As the sickly yellow sun sank in a cloud bank in the west, flock after flock answered the call, rising from the snow-covered plains until millions of pairs of wings beat like a pulse on the heavy leaden air, heading northwestward into the oncoming night. With sweet-voiced calls of "tyee!" and hoarser "chirrs!" they kept in touch with each other. Some were headed for Greenland, others for Baffin Island, others for the prairies and vast stretches of open land from MacKenzie to Labrador. Perhaps they knew in a dim sort of way that spring was coming to the Barren Lands.

Onward they flew over the swift-darkening Iowa prairies, over villages where gas lamps gleamed in the streets, over thawing rivers and snow-covered hills. On over Oskaloosa and westward to Council Bluffs the vast winged horde spread, and even across the state line to Omaha and Lincoln in Nebraska. Onward they swept northwest, toward the Dakotas and Minnesota—and toward disaster.

Two hundred miles north of them, a mighty snowstorm rode southward, drifting slowly down across the migration

This dramatic retelling of the Lapland longspur disaster of forty-four years ago serves to remind us that when nature is lavish, she may suddenly take away...

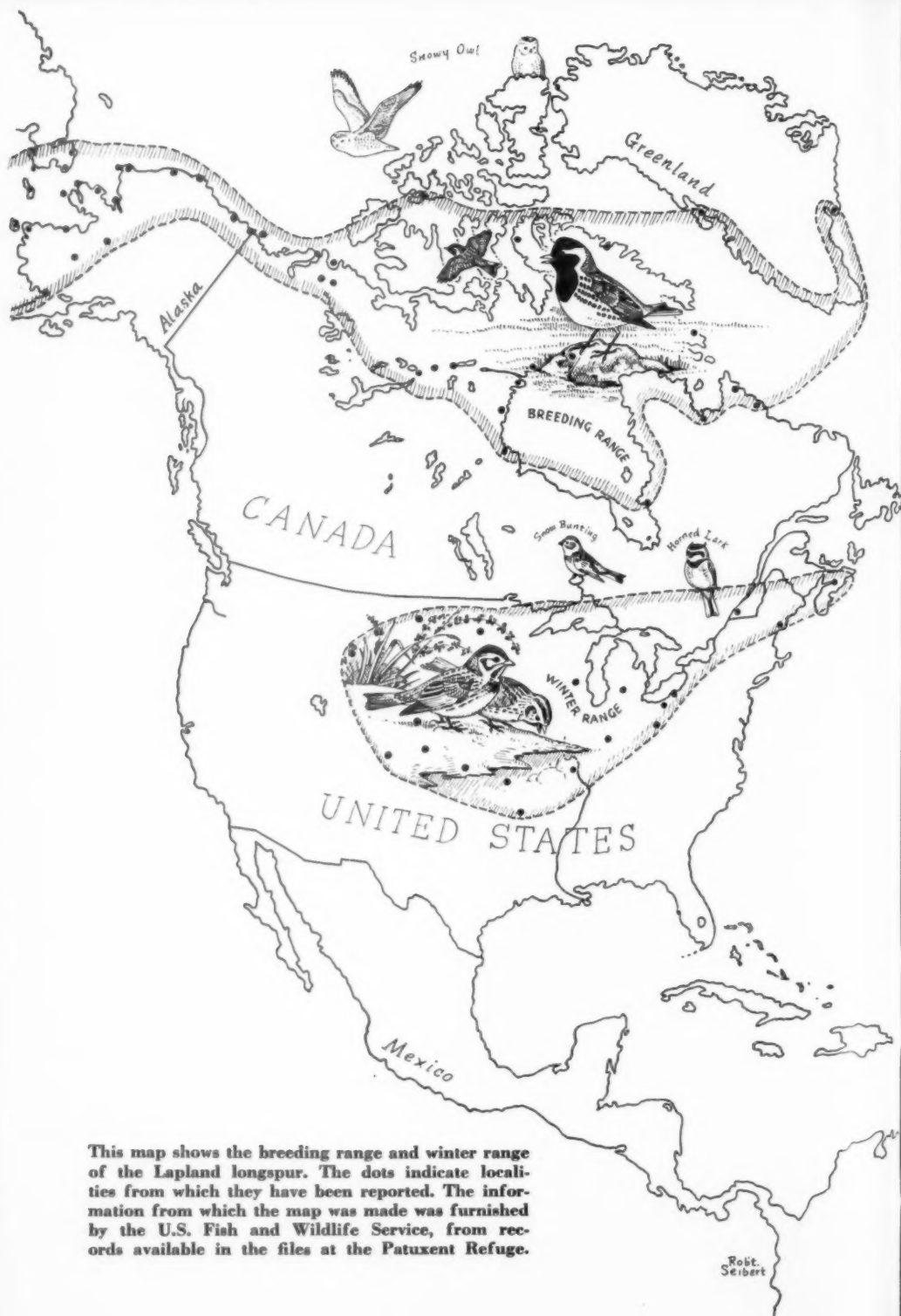


Lapland longspurs in breeding plumage, from a painting by George M. Sutton

route of the longspurs. Gradually the gloom thickened over southern Minnesota, then it spread to northern Iowa, and moved slowly westward to South Dakota. The first line of birds met the great storm from Fort Dodge westward to Sioux City. It was the meeting of two forces as opposite as those of winter and summer—the one alive, warm and perishable—the other, cold and mechanical, as implacable as death. There a great battle was begun, for even storms could not turn back the fluttering wings and wildly beating hearts that know only to go on and on until all energy is spent and they can fly no more. Bravely the longspurs plunged into the thick mass of whirling wet snowflakes that blinded, stung and bewildered them. But there

was no turning back, no desire to run before the storm. In the fierce drive of migration there is no reason, and the wild heart had become slave to the mysterious will that periodically drives the lemming millions to self-destruction in the cold northern seas.

Onward they flew, on and on, until the vast cloud of birds spread over southeastern South Dakota, southern Minnesota, and over the wide farm lands of northern Iowa. No one knows how long the little travelers had beat against the storm—certainly for two hours—perhaps for three or four. But at last the heavy snow overcame them with its weight and penetrating wetness. The tired wings beat slower and slower in the struggle to fly upward and onward.



This map shows the breeding range and winter range of the Lapland longspur. The dots indicate localities from which they have been reported. The information from which the map was made was furnished by the U.S. Fish and Wildlife Service, from records available in the files at the Patuxent Refuge.

Now, like exhausted swimmers, the birds sank down and plunged to earth. There, over the corners of three states, the great flight ground to a slow shuddering stop. There at last, the storm conquered them, and a great host of birds lay dead.

At 10:30 on the night of March 13, 1904, John Carlson, an emergency wireman for the local electric light company in Worthington, Minnesota, was called out to repair a broken line. As he walked down the village street at 11 o'clock, it was snowing heavily, a wet sticky snow that clung thickly to his mackinaw as it slanted before a scarcely perceptible wind out of the southeast. The temperature was above freezing and had it not been for the snow, Carlson would have been listening for the first sweet shrill piping of spring peepers in the marshes at the edge of the village. But instead of peepers, he suddenly heard confused, twittering cries from the dark, snow-filled skies overhead, and soft thuds against the sides and roofs of the buildings lining the village street. Then he saw little dark-bodied birds plunging in a shower to the ground. As he approached the light of the first street lamp, he was appalled by the destruction. Hundreds of birds, attracted by the lights, had struck the overhead wires. Falling beneath the arc lamps, they lay on the snow like leaves scattered beneath a tree after the first high winds of autumn.

Most of the birds were dead, but those that were alive sat quite still in a kind of bright-eyed stupor, only their heads sticking out of the snow. Carlson picked up one of them and dried it carefully, then another and another until he had gathered an armful of the tiny feathered voyagers. Then he took them under one of the street lamps for a closer look. They were all generally dark birds, about six inches long, their buffy-yellowish backs dusky striped, with the stripes running down along their paler sides below. Some had black breast patches and a hint of a chestnut collar on the back

of the neck. These were the males just coming into their brighter spring plumage. But one curious feature of each bird was an enormously lengthened hind claw, which was as long, or even longer than the bird's hind toe. Carlson did not realize it, but it was this long hind claw that had given the bird its popular name of longspur.

Many of the birds had struck the ground head foremost. When Carlson picked them up, a tiny trickle of blood running out of their mouths had reddened the snow, suggesting that inward injuries had brought death. In one lamp globe, he collected a dozen birds, drawn there like moths to a flame. Then he went home, walking carefully so as not to step on birds which lay everywhere on the village streets.

When Carlson finished his emergency repair job, it was 3 o'clock in the morning. The snow was still falling and birds continued to plunge out of the sky. Was there to be no end to their destruction? How long could it possibly go on? After a few hours sleep, he awakened at daybreak and walked to the village. The skies had cleared and the sun was shining warmly. Men, women and children were abroad in Worthington, picking up dead birds and commenting in pity and wonder at "the great bird shower."

Jim Drobeck, a farmer living on the edge of the village, while walking from his house to his barn at daybreak counted 75 dead birds in his yard. He was startled when one of a number of lumps of snow on his barn roof suddenly exploded and a live bird appeared. Then he saw that each ball of snow contained a live longspur and that they were slowly thawing in the morning sun. The heads of the birds first appeared, then shaking off the snow, they sat in the sun drying and preening their feathers before they flew off over the sparkling, snow-covered landscape. Drobeck picked up several live birds in his yard and took them into the house. There he



Dead longspurs lying on ice of lake at Worthington, Minn., where they perished during night of March 13 and 14, 1904. Photograph, Minn. Museum of Nat. History

kept them in his window garden for two weeks, feeding them each day on a handful of wheat and oats. The birds were remarkably tame and lived contentedly with the Drobecks until released.

"Seemed as if the little fellers knew that we were friends," said Drobeck. "My wife and I hated to see them go. But we kind of guessed that they had a long trip ahead so we fattened them up before sending them on their way."

The next morning the daily newspapers of many Minnesota cities and villages told of the great bird disaster. When the news reached Dr. Thomas S. Roberts, Director of the Department of Birds, Minnesota Natural History Survey, he sent Dr. L. O. Dart as their representative to get the details. Dart started his observations at Worthington, Minnesota, on March 22, eight days after the longspurs were destroyed. There on two small lakes on the east and west edges of Worthington, he estimated a million dead birds on a square mile of ice! Probably not short of two million birds were killed in Worthing-

ton alone. In clumps of bushes along the edge of the two lakes, there were still many live longspurs a week after the disaster, with broken legs and wings and various other injuries that prevented many of them from flying.

From Worthington, Dart traveled to Slayton, Minnesota, 25 miles north of Worthington. There he found the heads, wings and tails of dead longspurs sticking out of the snow and mud the length of Main Street and all other streets clear to the edge of the town. Every family in Slayton had captured from a few to a dozen live birds. After being fed and warmed by the kind-hearted villagers, the birds were released and flew as well as ever. Doctor Lowe, the village doctor, examined many dead longspurs and found fractured and indented skulls leading to cerebral hemorrhages, broken necks, wings and legs and ruptured lungs and intestines. Yet the birds were fat and in excellent physical condition, showing that lack of food had not been responsible for their inability to fly through the storm.

Wherever Dart traveled, he heard the same pathetic story. A vast flock was killed at Heron Lake, 25 miles southwest of Slayton, enormous numbers were killed at Luverne, 30 miles west of Worthington, and 1,000 were lying dead along a few blocks of Sibley, northern Iowa. From all these accounts, one fact stood out sharply and clearly. Only longspurs had been involved in the tragedy.

Within a few weeks, Dart collected reports from 23 towns and villages in southwestern Minnesota, northwestern Iowa, and southeastern South Dakota. From them he assembled one of the most ghastly pictures of a bird disaster known in America. His own observations and the reports of farmers and villagers showed that the greatest destruction centered at Worthington. Radiating from there, for 20 to 30 miles in all directions, the birds were killed over an area of 1,500 square miles, covering 40 towns and villages in three states. The total number of longspurs destroyed probably exceeded five million birds!

Did this tremendous destruction of longspurs decimate them seriously? Could it send them to the edge of oblivion as man's vast destruction of passenger pigeons had sent that bird to

extinction only a decade before? Apparently not, for in the years immediately following the great tragedy, bird observers in Minnesota and Iowa reported no diminution in longspurs wintering or passing through those states.

It is comforting to know that the longspurs still form in vast wintering flocks on the prairies of Iowa; that in spring they still sweep down on the Arctic wastes, all singing together in a beautiful chorus of thousands of voices. Here at last their goal is reached and storms and death of the great migration journey are forgotten. Each pair builds a tiny nest under some tuft of grass or a dwarf Arctic bush where the female sits quietly hatching her clutch of greenish brown eggs. Then the tinkling melody of the males sounds across the Arctic plains with all the assurance of the continuousness of life and of song everlasting. They are the makers of music in a desolate land. In the face of great destruction they have persisted. It is quite as if nature had played one hand against the other and smiled upon the one that holds the longspur legions. For she has favored them with an enormous abundance which even her own great storms have not conquered.

Birds Unite the Nations

Surrey, November 26.

From far out in the Atlantic a friend, who lives in the same Surrey village as myself, has just brought back the body of a small bird which failed to complete its immense migratory journey from summer to winter quarters. The story begins when a great and famous liner, 350 miles out from New York, steaming through a northerly gale, was joined by two small yellowish gray birds. They fluttered tiredly around the ship and one disappeared, but the other flew through a porthole into my friend's cabin, and it alighted on the bedside lamp, where it seemed to derive comfort from the warmth. It took a little water and soon began to catch small flies which were flying around the cabin. Thus, the small, still unidentified bird was kept alive for two days, when quite suddenly it died in the palm of my friend's

hand. The body was sent to the Natural History Museum in London, where it was identified as an American Palm Warbler (*Dendroica palmarum palmarum*), which breeds from Southern Mackenzie and Northern Manitoba, south and southeast to Northern Minnesota, and winters from Southern Florida and the Bahamas to the Greater Antilles and Yucatan. Though the bird had obviously been blown far off its course, news of its discovery may be of interest to American students of bird migration, and a full record of the incident is now on its way from our village in Surrey to an important natural history society in Washington, D. C. —J. H. L., "A Country Diary," in *Manchester Guardian*. This clipping was sent to *Audubon Magazine* by R. W. Hale, librarian for the London Natural History Society.

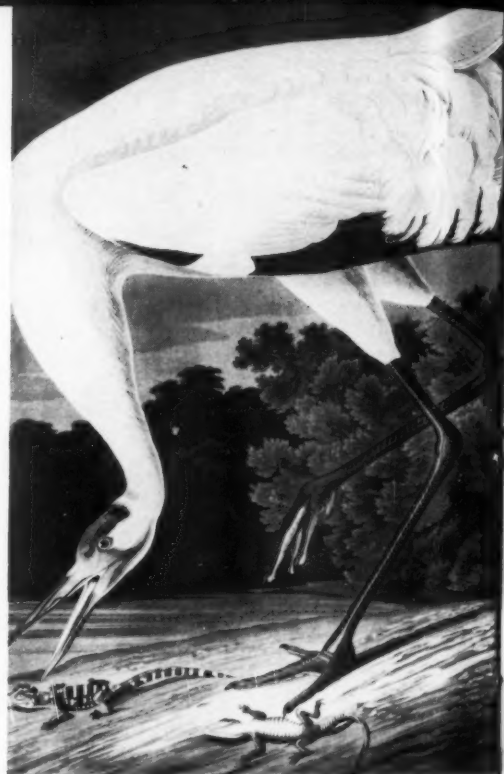
MAN *and the* LESSER ANIMALS

Several species of American birds have become extinct and now lie heavily on the American conscience. Do we understand the meaning of extinction . . . can we measure the void of oblivion?

By Robert P. Allen

THERE was one memorable document missing from the collection on the Freedom Train. The original, I have no doubt, reposes in the British Museum, but in spirit its modest, careful phrases are inseparable from Magna Charta, the Declaration of Independence and our great Bill of Rights. For there can be no complete emancipation without full intellectual freedom and Charles Darwin's "Origin of Species" is both a symbol of unfettered thinking and an original and unique history of the manner of man's struggle towards a higher destiny. Without evolution, without the slow, progressive operation of natural selection, there could have been no Magna Charta, no Bill of Rights. These documents are indestructible landmarks along the evolutionary high road and today—at this precise moment—any newspaper headline will tell you that it is a road that still stretches far, far ahead.

Although it is almost ninety years since "Origin of Species" was first pub-



lished, and regardless of the long forward strides that modern biology has made since, we still turn to Darwin for ideas and inspirations. One is always coming across passages that reveal not merely an understanding but also an underlying acceptance of mankind's close affinity with nature. Here, one may surmise, is the final mark of a really civilized man or woman, a total absence of the vanities and prejudices and pompous assumptions to which all of us have fallen heir in some degree. Do you recall the discussion in which Darwin tells of his astonishment on seeing a party of barbaric Fuegians? They were "absolutely naked and bedaubed with paint, their long hair was tangled, their mouths frothed with excitement, and their expression was wild, startled and distrustful."

The reflection rushed at once to Darwin's mind—"such were our ancestors"—and, as he wrote later, upon seeing such savage men it was easier to acknowledge

"WHAT GOOD IS THIS BIRD?"

Some "practical-minded" men still ask this question about the vanishing whooping crane (left, from the painting by Audubon). The author, research associate on the whooping crane project on which the National Audubon Society and the U.S. Fish and Wildlife Service are cooperating, gives a thoughtful answer in this article.

that the blood of some creature more humble than man flows in our veins. "For my own part," Darwin wrote, "I would as soon be descended from that heroic little monkey, who braved his dreaded enemy to save the life of his keeper, or from that old baboon who, descending from the mountains, carried away in triumph his young comrade from a crowd of astonished dogs—as from a savage who delights to torture his enemies, offers up bloody sacrifices . . . knows no decency, and is haunted by the grossest superstitions."

Darwin's discernment with regard to our ancient and honorable connections in the animal kingdom, our relationships to even the lowest forms, resulted quite naturally in his feeling of kinship with all lesser creatures. To him, as to any intelligent person, there is dignity and purpose in the separate entity and nobility of each form of organic life. How can any man, contemplating the great law of life—evolution, descent with modification—fail to see in the lives of less favored animals, reflections of our own long upward struggle from the shores of some primordial sea?

Evolution as a doctrine is less than a century old, but of course evolution as a fact is as old as the earth itself. But it is as dynamic and alive as life, for it is life in all its beautiful complexity and endless striving towards perfection. Most of us are prone to forget that evolution is in process all around us, that we ourselves live by its laws. Here, at every turn and often under the most humble auspices, is the most exciting drama ever to walk upon a stage. What we disregard

is the similarity between the struggles of the hero and heroine in our daily soap opera and the like struggles of a blade of grass, or a wild orchid, or the gregarious individuals of a mixed colony of herons and ibises. In each instance there is an effort towards exactly similar ends: existence itself, improvement of the race (if relationship to the environment suggests improvement) and perpetuation of the species. What are current and well-advertised frivolities such as a "well-



The great auk, above, produced good flesh, good feathers and good oil—and man completely used up the source of supply.

The Labrador duck, below, was sold in the markets up until the 1870's, even as it teetered on the edge of extinction.



groomed head of hair" or a "new look" dress but secondary sexual characters! And the contrivances of boy and girl in romantic novels and in a thousand and one motion pictures are, in their essence, case histories of natural selection at work, albeit sometimes to the point of *ad nauseam*.

Because we are human beings and not orchids or ibises, we are naturally fascinated by these adventures and dilemmas of our own kind; but I have seriously wondered more than once why people by the score don't turn every day, in desperation and relief, to watching the entrancing drama of natural selection among the fishes or the birds! Anything but our own race as depicted in the average soap opera or movie!

It is always surprising when some

Now we erect monuments in memory of the passenger pigeon, but we cannot restore the living beauty that Audubon painted.



practical, "common sense" person asks, "What good is this bird? Can't we get along just as well without it? Why go to all this trouble, spend all this money, etc., etc?" Do these questions take into account the great story of the humble origin of organic life on this planet or of the intricate, perfect, unequalled pattern that is evolution? Obviously not. The extinction of a species through man's destruction of natural environment and willful or ignorant neglect of consequences is a tragic and brutal and depressing commentary on the present state of our slow rise in spiritual stature. It is this same scorn of the very purpose and meaning of the life that nurtures us that destroys a hope of peace in our time. If we are insensitive to the reality and significance of the loss of a species then we have arrogantly turned our backs on the long long road that man and the lesser animals have traveled together, and, unless nature is to perish, must continue to travel together.

No man can know the secret of life's beginnings. We may observe and theorize concerning its progress, we may hope concerning its fulfillment, but the creation of the first organic life and of the pattern it was to follow is a divine mystery that our small comprehension may not include. It should be clear to us, however, that every organic being had a beginning and an evolution as noble and as dignified as our own. To scorn the simple and the lowly because of their mean estate is to repudiate the very "godlike intellect" that raises us above the lesser animals.

These creatures, great and small, are an inseparable part of us, one with our roots, companions of our common struggles and of our common destiny. Can we understand the meaning of extinction or measure the void of oblivion? Let us look humbly and fearlessly into the abyss and acknowledge that for all our science, for all our vaunted power and pride of accomplishment, we would be helpless to replace the very least of these.



This handsome Audubon painting is all we have left of a once abundant American bird, the Carolina parakeet. The extinction of a species through man's destruction is a tragic commentary on our slow rise in spiritual stature

On the shores of

LAGUNA MADRE

TEXAS



By Joel W. Hedgpeth

Illustrated with photographs by Allan D. Cruickshank. At right, laughing and ring-billed gulls along a typical Laguna Madre shore. The handsome center spread shows a colony of brown pelicans.

THE saltiest bay in North America is the Laguna Madre of Texas, that long strip of water behind the sandy barrier island of the south Texas coast. Almost any map shows the Laguna Madre as a sliver of blue just inside the coast line between the city of Corpus Christi and the Rio Grande. But no map shows the Laguna as it really is: a shallow, yellowish-green bay almost like a broad river that does not flow. Although it is almost 130 miles long, its average width is about six miles, and its deepest holes are perhaps ten feet deep, while most of it is less than two feet deep. In its middle this strange bay is almost dry

except during the high tides of spring and fall. Many maps are so small that they appear to show the Laguna Madre connected with the Rio Grande, which is not so, as the two meet only in times of great floods.

Together with Padre Island, which separates the Laguna from the Gulf of Mexico and which is said to be the longest island for its width in the world, this area is one of the loneliest and least traveled parts of the coast of the United States. Yet Padre Island is not uninhabited, and the Laguna Madre provides the greater part of the commercial fish catch of Texas. On the



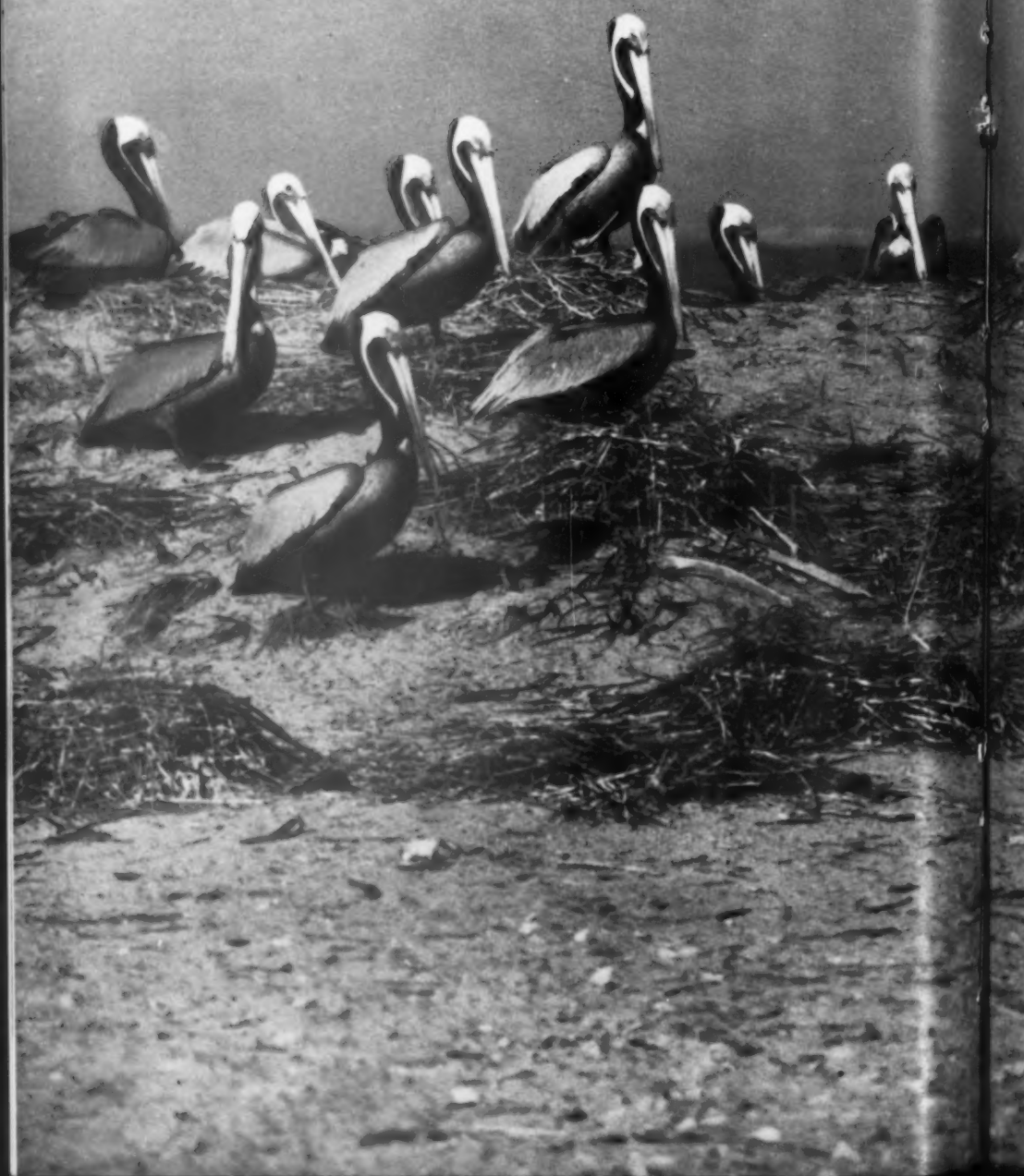
Map by Robert Seibert, from one drawn by the author.

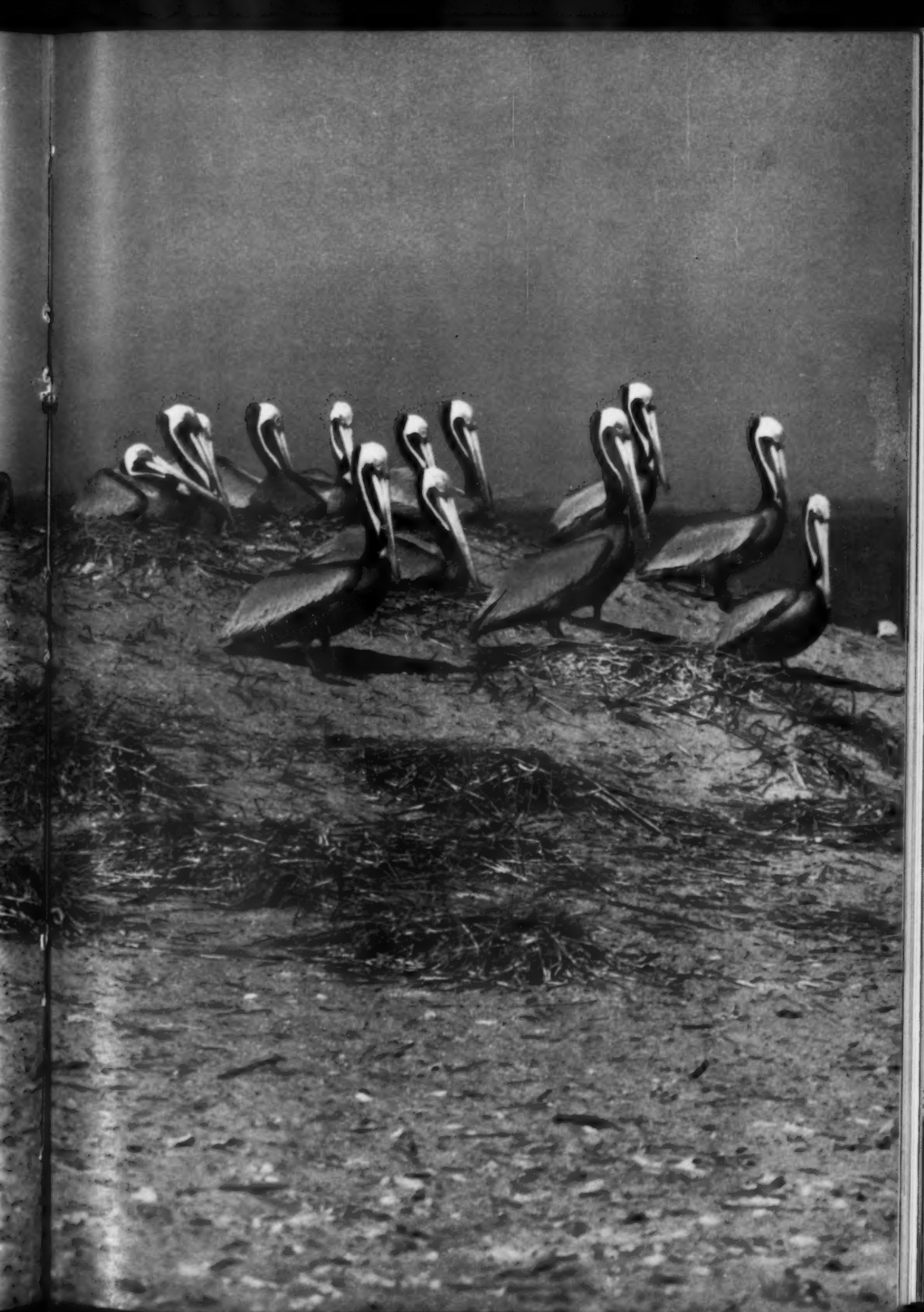


island, deer, coyotes, badgers, skunks, coons and lesser mammals live among its dunes, and coveys of doves and quail frequent the thickets of high grass and bushes which are the island's substitute for trees. Many of the mammals are just a bit different from their relatives on the mainland, as is the Padre Island ground squirrel, which has been dignified with a name of its own. The waters of the Laguna teem with fish in spite of the high salinity, often twice

that of normal sea water, but there are few crabs or shrimp, and oysters are found only at the extreme southern end near the dreamy little town of Port Isabel.

In the winter, thousands of ducks find refuge among the isolated shorelines of this country; in the spring, the herons and white pelicans come to nest on the grassy islands under the protection of the National Audubon Society. Gulls and sandpipers run along the beaches,





eating the luckless creatures left unsheltered by the action of the waves, and even digging into the sand for the succulent little clams which live in great colonies at the low-tide level along the Gulf beach. Each storm brings up new treasures for the shell collector, and Padre Island is a famous collecting ground to conchologists and the people who gather shells with which to contrive the outlandish dicky birds, fairy maidens, ash trays and novelty jewelry which are the stock in trade of all seaside resort towns. Now and then a whale or a huge sea turtle leaves its bones to bleach on the sands with the skeletons of forgotten fishing boats and the strange flotsam of the sea.

It is a lonely, almost forgotten part of the world, this hundred-mile reach of sand dunes and salty bay. Yet it is rich in history and resources. They say Lafitte buried gold on Padre Island (as he is said to have buried it everywhere else on the Gulf coast), and that Cortez' galleons were wrecked there. During the Mexican War our armies gathered at Corpus Christi and Port Isabel, and the Civil War's last battle was fought near Port Isabel, between the Laguna Madre and the Rio Grande within sight of Port Isabel's old lighthouse. Although that lighthouse was built in 1852 and has long been abandoned, there is an old Mexican in the town who claims to have helped build it. He is supposed to be 117 years old. Today the Laguna Madre forms a part of the eastern boundary of the great King Ranch, and a few cattle are even raised on Padre Island itself. The only human inhabitants of Padre Island are the members of the Coast Guard stationed at Brazos Santiago, across the bay from Port Isabel, a few fishermen in isolated shanties, and the occupants of an abandoned hotel a mile from the southern end of the island. Only fishing boats can navigate the shallow waters of the Laguna Madre, and once a week the little red seaplane of the Game, Fish and Oyster Commis-

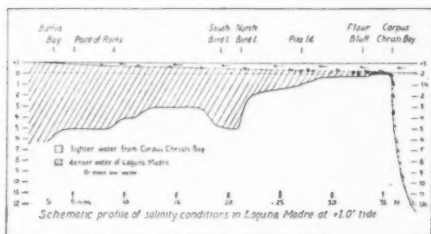
sion makes its regular patrol, keeping net fishermen out of those parts closed to such fishing, and taking salinity samples for analysis at the Commission's new marine laboratory at Rockport.

But the isolation of the Laguna Madre and of Padre Island will soon be no more. Even now the last link of the Gulf Intra-coastal Waterway is being completed across the shallow flats which divide the Laguna in half, and barge tows will soon be making their way down the new channel through the middle of the bay to Port Isabel and Brownsville. Last year the National Park Service investigated Padre Island's possibilities as a national park. Although their decision has not been made public, development interests are hard at work planning construction of a causeway from Corpus Christi to Padre Island across the northern end of the Laguna Madre to open up the hundred miles of beach to visitors. It is not reassuring to learn that they are also designing elaborate resort hotels and making landscaping plans, but some sort of development in this area is inevitable.

There are two competitive plans for causeways and resort developments under way at the present time, but neither of them has taken into consideration the effect of their plans upon the waters of the Laguna Madre, to say nothing of the destruction of Padre Island's isolation, which is one of its chief attractions at the present time. To reach Padre Island today, it is necessary to take a little nine-car ferry to Mustang Island, which lies just north of Padre, and to drive eighteen miles down the beach to the shallow pass or channel which separates Mustang and Padre. There are times when the tide is low enough for a car to drive across, but it is not good for touring cars to drive in salt water, and the danger of being caught by the returning tide is too great. Occasionally a crude barge which serves as a ferry comes to the rescue, but it is undependable, and on the

whole this shallow barrier has proved effective. One of the causeway plans involves only Mustang Island, but a bridge across this pass would probably be built as soon as a causeway across the Laguna is completed.

Both causeways, as designed at present, are actually solid walls or dams



When the tide brings in water of lower salinity to the Laguna, that water slides over the heavy salt water of the Laguna as illustrated in this diagram.

across the Laguna Madre, with short openings to permit navigation in the channel and for "salinity exchange." The designers seem to believe that their plans will take care of salinity exchange between the northern Laguna Madre and Corpus Christi Bay, and the fact that they realize that this problem exists at all is some tribute to the importance of the Laguna Madre as a fishing ground. Although the Texas Game, Fish and Oyster Commission, the U. S. Fish and Wildlife Service, the National Audubon Society and the Izaak Walton League petitioned the U. S. Engineers to deny the permits for construction of these causeways, the permits have nevertheless been granted since the proposed causeways will have no effect on navigation. Since the matter is still in the permit stage, there has been no further action by the interested organizations.

To understand this problem, it is necessary to explain something about the action of salt water and to recount a little of the Laguna Madre's recent history. In the first place, it must not be

forgotten that this body of water provides better than 50 per cent of the total fish catch of the Texas coast. And of that 50 per cent, the Laguna Madre provides more than 80 per cent of the catch of the three most important commercial fish taken from Texas waters: the redfish, trout and drum. It is not clearly understood why this is so, but it seems to be a combination of the Laguna's excessively salty water and its relatively unspoiled condition insofar as the activities of man are concerned. Many years ago Galveston Bay supplied most of the fish caught by commercial fishermen in Texas, but Galveston Bay is now hemmed in by large cities and its waters have become so polluted by industry and sewage that it is the least important source of fish on the Texas Coast today.

The Laguna Madre is isolated hydrographically as well as geographically from the rest of the world. At its southern end, there is only the narrow pass known as Brazos Santiago, opposite Port Isabel, and at its northern end there are sand flats which separate it from Corpus Christi Bay. It was not long ago, in terms of geologic time, that the Nueces River, which now enters Corpus Christi Bay just above the city of Corpus Christi, flowed into the Laguna Madre through Baffin Bay, but now there is no source of fresh water to lower the Laguna Madre's salinity. Of almost equal importance is the Laguna's position in the semi-arid zone, where rainfall is barely in step with evaporation. Thus there is little fresh water entering the Laguna Madre to lower its salinity, and its connections with the Gulf of Mexico and Corpus Christi Bay are so poor that it is not possible for much mixing of the Laguna's very salty water with the less salty water of the Gulf and the Bay, except during high tides.

Every few years, during particularly dry and hot summers, and when the tide remains low, the water of the northern half of the Laguna in particular becomes

even saltier, and the fish die off in great numbers. This mortality is especially severe in the northern Laguna because the tide flats between it and Corpus Christi Bay are so shallow that the fish cannot escape as the conditions grow worse. For many years fishermen and sportsmen's interests have agitated for some sort of remedial measures, and a few years ago, the Game, Fish and Oyster Commission dredged a pass across Padre Island just above the shallow middle part, i.e., at the lower end of the northern half. This pass did not work because it was on too small a scale to permit any exchange of water between the Laguna Madre and the Gulf of Mexico, and the winds filled up the ditch with sand almost as soon as it was dug.

Without a broad lateral surface, such as is afforded by a high tide across the entire six-mile width of the Laguna, salt water of different densities will not mix, and everywhere in the world where there are bays separated by narrow channels from the ocean, we have characteristically different salinities or concentrations. Although the Golden Gate is a mile wide and several hundred feet deep, San Francisco Bay remains less salty than the Pacific Ocean. Even the great width and depth of the Straits of Gibraltar do not permit the waters of the Mediterranean and the Atlantic to mix. The Laguna Madre itself is almost a textbook case of this peculiarity of salt water. The regular salinity samples which have been taken by the Game, Fish and Oyster Commission in the last two years show conclusively that water of the northern half of this bay is divided in two parts because of a large sand flat near its middle which has narrowed the bay to about a mile at this point.

The proposed causeways across the Laguna Madre provide very inadequate openings, in view of these facts. One causeway would leave something around a mile of open space, the other con-

siderably less. Some of the people concerned believe that the new ship channel, which is being dredged to a depth of 15 feet, will take care of salinity exchange. While it will probably provide an escape channel for fish during periods of excessively high salinity, it is only 200 feet wide, and that is too small to change the face of nature. If either of these causeways is built according to present plans, the northern half of the Laguna Madre will soon become a brine pool, its densely salty waters barren of fish life and without food for the birds which winter and breed there. If the eventual plan to build a similar causeway across the lower end near Port Isabel is realized, the entire Laguna Madre will become a biological desert. Perhaps it may then become an important source of salt, if we are short of that commodity.

The only logical answer to this danger is to change the plans of the causeways from solid fill to open work of some sort. It is protested that a bridge or piled structure would cost too much. Yet it would certainly seem less expensive, from the standpoint of long range use, to spend more money on a sound structure than to destroy some of the very values which these projects hope to enhance, if indeed they are planned for anything beyond short-sighted profit. It is true that the Laguna Madre is, in terms of geology, dying, and that in a matter of centuries it will be no more, but that is not a valid reason for hastening its end for the sake of immediate gain. There is no great industrial development or national need at stake here, for this project is based solely on the hope of building up the Gulf beach as a resort playground, and such development would fare best if all values were equally served. Some of our finest national parks have been damaged by over-enthusiastic development, and the lesson of these unhappy incidents is that the time to save a natural environment is before it is made accessible, not after.



Green Island is the home of the largest breeding colony of reddish egrets in the United States. The normal color phase (above) is bluish slate with rufous chestnut neck. The rare white phase bears no relation to individual's age or sex.



The American Continent is her backyard



LAUREL REYNOLDS is the champion of "fun with birds" in your own backyard. She has discovered that beauty and birds are always within arms' reach—if you have eyes with which to see, and a camera with which to record.

Her first film "Fun with Birds" was a Piedmont, California "backyard" production of baby quail, dancing phalaropes, and a great horned owl named Toots.

In "With Feathers Flying" she films the bird wonders of other West Coast backyards—in the valleys and deserts and along lakeshores. In "Southern Exposures" her backyard explorations moved to the tidelands, forests and

These sardonic brown pelicans abandon their dignity in "With Feathers Flying."

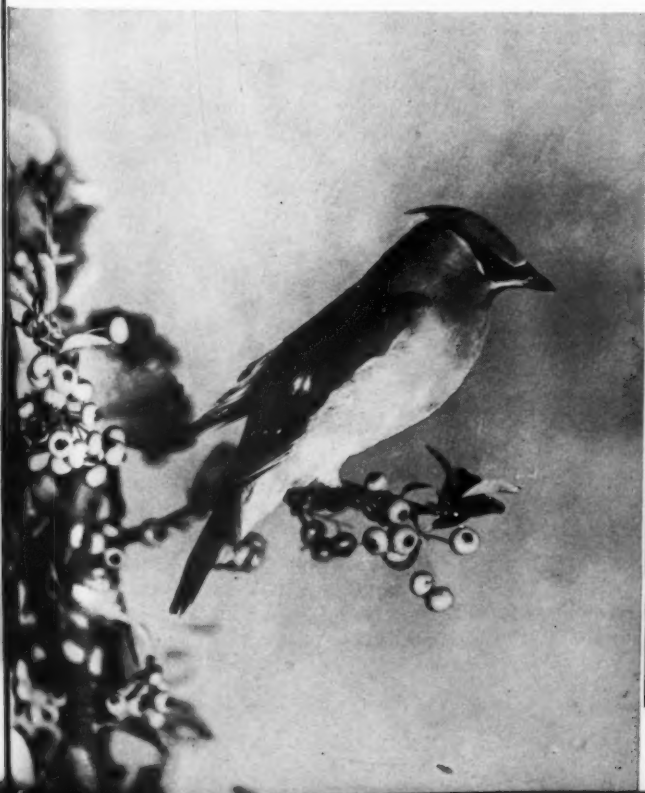


White pelicans, above, make a sculptured frieze. Hundreds of them take wing against a blue sky in Laurel Reynolds' film "With Feathers Flying."

marshes of the southeastern U. S. where she captured exciting shots of roseate spoonbills on the Texas coast and wildfowl in a duck hunter's paradise in North Carolina.

Master of the art of the motion picture, Mrs. Reynolds claims that she is the recorder of birds in the easily accessible places. Yet she admits "there is no mud too deep to wade, no cliff too steep to climb, no

brush too thick to crawl through or under if there is just a mere chance to take a picture of a bird!" What luck for the rest of us—that Mrs. Reynolds can take anything in her stride in our great continental backyard! As an Audubon Screen Tour lecturer she has introduced the thrill of watching birds to audiences from coast to coast.



The cedar waxwing, left, and other still photographs of subjects which appear in Laurel Reynolds' colored motion pictures were made by Kathleen Dougan of Oakland, California.

Timmie the robin (see cover) is a favorite character in "Fun with Birds." The film records his life history from egg through speckled youth to proud red breast.



EVENING GROSBEAKS



choose their
lipsticks
well

By G. Hapgood Parks

Drawing by Robert Seibert

IT was winter and the New England landscape was comfortably, typically snow-covered. The weather was mild, and the day of February 6, 1942, was worth little description in our diary. Yet this entry appears in red capital letters:

A FEMALE EVENING GROSBEAK PERCHED IN THE CUCUMBER TREE THIS MORNING!

The excitement of that moment was all we could ask for. Little did we know that it was just the beginning of five seasons of absorbing experiences with grosbeaks—for since that day almost 4000 of these birds have passed through our traps here in Hartford, Connecticut.

Most of the birds come to us unmarked, but some wear bracelets given to them by banders whose stations are located to the north of us in Maine, Vermont and Massachusetts and as far west as Michigan. Of the 1469 individuals which we have banded, recoveries have been reported from Connecticut, New Jersey, New York, Massachusetts and the wilds of Canadian Ontario.

We have listened to their rich repertoire of calls and cries and have marveled at their individuality in temperament. This is noticeable in their voices, in their conduct at the feeding trays and in their reactions to handling. Some are timid, some are brave; some are gentle while others are vicious; some are as

silent as their companions are communicative. Some are nervous, others are phlegmatic; some are wary and await the leadership of the more inquisitive. The aggressive drive the weak at every opportunity, while gluttons refuse access of others to food they, themselves, do not need. Yet an understanding seems to exist in each flock which permits the use of warning signals we humans are seldom able to detect.

As time went on and we began to know our birds better, a color change in the bill became apparent. During the winter the evening grosbeaks' bills had been characteristically a neutral bone color, but on April 14, 1946 we noticed that the bill of one we were banding was distinctly green. The green was similar to that of the skin of a maturing apple just before the sun has tinted it with the first faint blush of ripeness.

Our opportunity to study this color change came when, on the day before Christmas, 1946, a banded female scout found our sunflower seeds and led her companions to the repast. From Christmas, until late in May, there were daily visits from at least a few evening grosbeaks. Almost every day we trapped some of them. Throughout the winter no change was observed in the uniform bone color, but on March 11 the first variation was discovered. On that date a female was trapped whose bill was

completely green. On March 13 a green-billed male was trapped along with four others whose bills were still somber. March 23 brought to our traps a mixed group composed of green-billed and bone-billed individuals in almost equal numbers. After that date our study became a matter of noting characteristics which were typical of the change in pigmentation.

During early March a preponderant percentage of the trapped birds revealed a whitish area across the base of the upper mandible close to the edge of the feathers. This condition was apparently caused by a loosening of very thin surface membranes on that part of the bill. Some upper mandibles also showed evidence of the peeling of these membranes from the edges and from the tip. It was

distinctly apparent, however, that any green color which appeared came from a change in pigmentation within the bill itself, rather than from the uncovering of any fresh area by the peeling off of old, discolored coatings. This fact was especially evident on the lower mandibles where, frequently, there was absolutely no evidence of peeling although the greenness of the bill was remarkable to observe. Very commonly the lower mandible was waxen-smooth and the apple-green color, near the tip, blended into a blue-green, nearer the base, that was not in the least unlike the hue of a smooth sea beneath a cloudless autumn sky.

The buds swelled very slowly last spring, and as the evening grosbeaks perched among the bare branches of our

Evening grosbeaks photographed by Ralph E. Lawrence



several deciduous trees during late March and early April every movement of every head was almost as conspicuous as if its green bill were a lighted lamp in the darkness. The color of the bills was conspicuously out of line with the chromatics which nature had applied to their environment. A fundamental law so vital to the safety of this species seemed to have been broken. The coloring made every bill so incredibly visible that an observer's eye was arrested by their slightest movements, although the bodies of even the spectacular males remained inconspicuous.

As the late spring warmth finally awakened the buds and the fresh young leaves burst, at long last, from them, it was as if a miracle had occurred. No longer were the perching birds prominently visible. To count even a small flock in the trees suddenly became impossible. Although our ears rang with their chirpings, our eyes sought in vain for the birds among the branches. It was not that the leaves were large enough to hide them, but instead, there was a blending of colors which our eyes could not disperse. Then we realized the sig-

nificance of the color of the evening grosbeaks' bills. Only nature could have matched so closely the shade of her newborn leaves. Every bill of every perching bird became miraculously just another tiny leaf.

Although we have never had the pleasure of observing a female of this species incubating her clutch of precious eggs, it is not difficult to visualize her nest in the deep darkness among the branches of a wilderness spruce. We can see, too, the tender freshness of the twig tips, as freshly green as if a magic painter had dipped each of them into a wonderful new pigment, a new green, the same green that tints the lipstick which every evening grosbeak wears.

And in our special spruce one apple-green twig tip moves ever so slightly, as if some silent breeze has disturbed only it from the forest's total immobility. No prying eye, however, can carve that twig tip from its perfect likeness to those other bits of green which are truly of the spruce, new parts and spring born perhaps, but parts which never have wandered, nor ever can wander, afar awing.

HOW OLD IS A WOODPECKER?

By Alvah W. Sanborn

IT was in January 1947 that I first saw hairy woodpecker # 39-307551 eating suet at a feeder here at our Pleasant Valley Sanctuary in Lenox, Massachusetts. The bird had been around for several weeks before I discovered that it was banded.

Now ordinarily a banded bird at our sanctuary is not cause for much excitement. Chickadees and nuthatches that I have banded come in an endless stream to feeders on the porch and at my window. However, I had banded no hairy woodpeckers and my predecessor, who had been here for four years, had done no banding at all.

A number of questions immediately started to run through my mind. Who had banded this bird? A former director of the sanctuary? A local bander (of which we have few) operating nearby? Or had the bird wandered in from a great distance? How long ago had the bird been banded? And the key question of all: how was I to catch him since we had no woodpecker traps?

I wanted desperately to get this bird and solve the riddle. After studying the situation I decided that the simplest way to catch him would be with a drop trap, which is just a box propped up on one side with a stick to which a

string is attached. Bait is placed under the box and the would-be trapper hides at a distance with string in hand.

So I constructed a box of quarter-inch mesh wire since birds, like other animals, fear to place themselves in a blind corner. The wire box had a door cut in the back for removal of the catch and was hinged to the trunk of the tree just above the suet feeder. The bottom edge was propped away from the trunk with a stick, and the attached string ran under the window into the study.

Since my bird was a fairly regular visitor during the hours of eleven to two, I was ready, at noon the next day, with string in hand. A strident "peck" heralded the approach and shortly my hairy was warily hitching himself down the trunk of the tree looking this way and that for possible sign of danger. Breathlessly I waited. At last he was under. A yank of the string and the trap fell, but my bird had escaped. In my eagerness to catch him, I had been too hasty, and had sprung the trap before he was squarely centered under it, and he had managed to fly out.

The next day at noon I was again at my post. Would the narrow escape of yesterday keep the bird away? No, for shortly he appeared and approached the trap in the same cautious manner. This time I waited until the bird was directly under the center of the trap. A pull of the string and I had him. I bolted out of the front door and in a matter of minutes had my bird in the hand.

The band number was 39-307551 and a check of our records showed that this bird had been banded on January 19, 1939 by Dr. George Wallace, a former sanctuary director. Its age at that time was unknown as it was not a fledgling. Dr. Wallace had retrapped the bird on January 21, 1941. Now, on February 1, 1947, I had been fortunate enough to retrap the bird again. A check of available published records showed this individual to be, in all probability, the third oldest hairy woodpecker recorded



through bird banding. The oldest hairy, of which I have been able to find any record, reached the ripe old age of 9 years and 7 months.

Before releasing # 39-307551 I placed a green celluloid band on the right leg so that he could be identified without retrapping. Several times during the summer of 1947 the bird was observed near our beaver ponds. He was not seen again until one day in November when he reappeared at his favorite feeder and has been a regular visitor ever since. Along in December I concluded that this old bird should have his portrait taken and set up my camera and flash attachment to the left of the feeder in the hope of getting a shot that would also show the government band. The old bird proved to be a good sitter as you can see.

Now safely past the 8½-year mark this hairy woodpecker seems to be well situated to establish for himself the undisputed old age record for the woodpecker clan.



It was a winter for

SQUIRRELS

or so say our bird-attracting friends

—By John K. Terres—



DURING the past winter of extraordinary snowfall and cold weather, I have never heard squirrels so maligned as by people who feed the birds. My mother, ordinarily a peaceable soul, was aroused to a fighting pitch. Bitterly she denounced all squirrels for their ill manners and general gluttony at the bird-feeders in the backyard of her home in a village of southern New Jersey.

"You sound like a sportsmen's club with a hawk peeve," I protested. "Squirrels are just as much a part of nature as the birds."

Mother shook her head firmly.

"In the woods—yes!" she agreed. "But not in my backyard. You must do something about the squirrels and those other gourmands, the bluejays!"

It did no good at the moment to remind her that squirrels and bluejays often plant trees when they bury nuts in the ground, and that titmice, chickadees, and other tree-nesting birds profit thereby. She weakened a little however, when I told about the squirrels that helped to save the lives of a covey of quail one winter in western Pennsylvania.

In one of the most severe snow and ice storms of the winter of 1935-36, when the covey was threatened with starvation, hungry gray squirrels bored into unopened corn shocks in a field adjacent to a woodland where the covey was eking out a bare living. Dragging ears of corn into the open, the squirrels fed upon them, and in doing so, made a food supply available for the starving quail. From the partly eaten nibbins and corn residue, left daily by the squirrels, the flock fed satisfactorily for several weeks and managed to survive the most critical period of that winter.

But our village squirrels still had to be outwitted. I made a bargain with my mother. If I prevented the squirrels from getting into the bird-feeders, would she feed them elsewhere in the yard? Anything, she agreed, if her birds might feed in peace!

Several years ago, when I put up our bird-feeders, I hadn't reckoned on squirrels usurping them and keeping the birds away. One cold, stormy, January day, when I saw

a squirrel monopolize a feeder for forty-five minutes, I had to agree that Mother's concern over them was justified. When birds learn to depend upon a food supply in the middle of a cold and stormy winter, and that food is suddenly withdrawn, or they are prevented from reaching it, some of them may die before finding another source of supply. We know that it isn't the subzero cold that kills birds, but the lack of enough food to keep their body temperatures high.

I drew a rough sketch and took it to a tinsmith who soon fashioned two flared-out metal guards about 30 inches in diameter that looked like lamp shades. One of them I nailed halfway up the cedar post that supports the bird-feeding station in the middle of our yard. We had never been troubled by cats, but I was sure that neither squirrels nor cats, unless they had wings, could reach the feeder now. The other metal guard I fastened to the top of our feeding station which is suspended by a wire from a low branch of our big tulip-poplar tree. The pendant feeder, with its wide-rimmed top, now looked as though it had donned one of those broad hats worn by Chinese coolies.

While I watched, a squirrel ran out on a limb, gracefully slid partway down the heavy wire holding the bird-feeder, and dropped on top of the shiny, new, metal contrivance. Too late he discovered that its steep sides were slippery. Frantically, he tried to scurry back to the wire, but he slid off and fell six feet to the ground, landing with a thump in the snow. Sputtering angrily, he raced back up the tree where he sat coughing and barking his disappointment at me.

To allay the wounded feelings and hunger of my squirrel friends, I built two simple but effective feeders for them. Thirteen years ago, when I first went to work as a Soil Conservation Service biologist, we found these types were favored by wild turkeys, ruffed grouse, gray squirrels and other wild creatures during our winter wildlife feeding campaigns.

On the side of a large sycamore tree in



the back of our yard, I fastened a wire basket about three feet deep and two feet in diameter which I filled with golden ears of field corn. Between two small rough-barked sassafras trees, I then wedged a 2"x4" piece of lumber about six feet long through which I had driven spikes upward, six inches apart. On these I impaled more of those yellow ears of field corn. Squirrels were soon spending a lot of time at these feeders, and the discarded bits of grain dropped by them in the snow was quickly gobbled up by small birds that find whole corn too large for them to swallow. By scattering table wastes, crumbled bread, and mixed grains on the ground nearby, we also were able to attract starlings, bluejays, and even cardinals away from the feeders where they often persecuted the smaller birds.

Friends of ours, who have been feeding the birds for about 20 years, use special types of feeders to prevent small birds from being annoyed by bluejays and squirrels. They make "coconut feeders" by boring one and one-half inch holes in coconuts, draining off the milk, and then filling their interiors with peanut butter and melted suet so well-liked by chickadees, titmice, woodpeckers and other birds. The hole is bored slanting upwards, a little below the mid-section of the coconut, which is suspended about five or six feet above the ground from a tree branch by fine wire. Small birds can cling to the rough exterior of the coconut and peck at

its contents through the hole, but squirrels dare not climb down the thin wire and bluejays cannot dine without a firm roost under their feet. Our friends also use "suet sticks," bark-covered sections of tree branches, in which they bore shallow two-inch diameter holes and fill with suet. These are hung lengthwise below the tree branches by wire to keep them out of squirrel reach.

When we first started feeding the birds, our neighbors thought that only English sparrows would be attracted to our small town backyard and would drive other birds away. The English sparrows did come to us first, but instead of repelling other birds, they attracted juncos, white-throated sparrows, purple finches, and others with which they have always fed agreeably. Starlings also visit us, but usually feed on the ground when they do come. Neither the manners nor the feeding habits of these two foreigners have given us cause for complaint. We feel that the good services of the English sparrows in ridding our garden of many injurious insect pests before other birds have arrived is all to our benefit. And starlings, though less attractive, are known to be of more economic value, because of their insect-eating habits, than robins and several other kinds of American birds.

In the beginning we made our biggest error in assuming that we should not start feeding birds until fall.

"Start feeding them *anytime*," said our experienced friends. If you failed to start

Red squirrels (photograph on page 114) occupy a niche in the coniferous woodland similar to that occupied by gray squirrels (photograph at left) in the deciduous woodland. Red squirrels are usually shyer than gray, also more predatory.

At right, slate-colored junco. All three photographs by Cruickshank.



in the fall or winter, start in March or April or summer or whenever you get the inspiration.

At first, one of our real problems was in getting birds to come near so that we might observe them at close range. Ordinarily, birds will not come to the window-feeder unless they have been used to coming near the house. We overcame this by feeding our birds for sometime on a small wooden platform which I nailed diagonally across the back porch railing. It was only a step from there for the birds to come the remaining ten feet to our dining room windows.

One way to entice birds closer to the house is to attach a bird-feeder, suspended by pulleys, to a trolley wire running from an outbuilding, or post, to the window where it is desirable to draw the birds. When first starting to feed them, the movable feeder on its running wire may be from 30 to 50 feet from the house. Gradually each day, it is drawn a few feet nearer until it is finally at the window. From the trolley feeder it is usually not difficult to get birds to transfer their feeding to the window sill where the family may watch them at close range, and in comfort, on the coldest day.

The window-sill-feeder is easily made and may be simply a strip of wood eight inches wide running the length of the sill with a low upright edge along the three outer sides to keep seeds from blowing off. Each of these will allow comfortable feeding

space for at least a dozen birds. Windows chosen on which to feed the birds should preferably be those on the side of the house away from the prevailing winter winds.

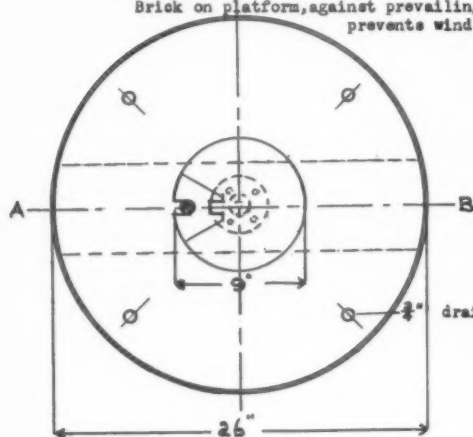
Many of the delights of bird-watching were lost to us until we got a window-sill feeder. After getting the birds to come to the window, we discovered that besides white-throated sparrows, nuthatches, chickadees and the usual run of winter birds, we had been overlooking vesper, swamp, field, and song sparrows when the feeders were farther away.

When we began, we weren't sure what to feed the birds, but our "expert" friends came to our rescue with a list of foods and warnings that we have found highly profitable to observe.

A staple food for most birds is called, commercially, "baby chick feed." It is finely cracked corn and wheat. To this we were told to add millet, hemp, canary seed, rape, sunflower seeds, and some sand or gravel, which the birds cannot do without if they are to digest their food. Sunflower seeds appeal particularly to cedar waxwings, blackbirds, nuthatches, titmice, purple finches, goldfinches, song sparrows, and grosbeaks. Juncos love millet, hemp, bread crumbs, pie crust, crumbled doughnuts, and ground pumpkin seeds. Chickadees, white-throated sparrows, and chewinks are also fond of doughnuts, and white-crowned sparrows like rice. Bob-white quail and doves are attracted to whole wheat kernels, buckwheat, rice, and sunflower seeds, but

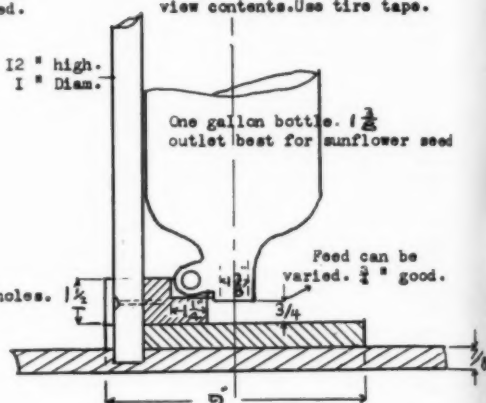
$1\frac{1}{2}$ " lead strip bent over circumference as perch and non-conductor of heat.

Brick on platform, against prevailing wind prevents wind feed.



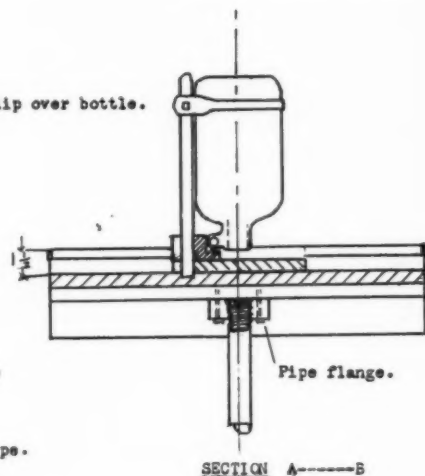
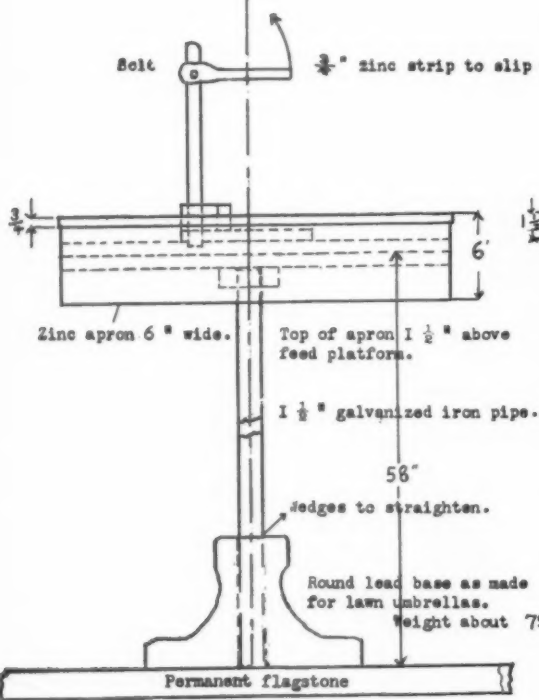
12" high.
1" Diam.

Paint feeder dark grey. Leave vertical strip unpainted to view contents. Use tire tape.



DETAIL OF BOTTLE SUPPORT.


Bolt $\frac{3}{8}$ " zinc strip to slip over bottle.



SECTION A-----B

SQUIRREL PROOF, AUTOMATIC
BIRD FEEDER.

This feeder has been in operation for six winters at Norfolk, Connecticut, with marked success. Filled with sunflower seed, it has attracted more than 80 evening grosbeaks at one time. During winters when the grosbeaks do not come south, medium cracked corn is used to attract jays and the usual mixed bird seed is used to attract the regular winter visitors.



the little bobwhite will leave everything for his beloved bread crumbs.

Not long ago, we learned that salt has an astonishing attraction for birds. A farmer, who had thrown salt on the ground that he had used in freezing ice cream, discovered that pine siskins, crossbills, and evening grosbeaks came to feed on it.

"Don't forget suet!" reminded our friends. "If you will have lots of chickadees, woodpeckers, and nuthatches, put out suet." A beef or lamb bone that hasn't been picked too clean, if hung from a tree out of reach of dogs and squirrels, will attract downy and hairy woodpeckers, chickadees, and brown creepers. Most of the ground-feeding birds—sparrows, catbirds, thrushes, robins, thrashers and others—like raisins, but they should be soft, or else chopped in small pieces or steamed.

Two summers ago, a pair of catbirds nested in our backyard and my mother spoiled them completely. As early as six o'clock in the morning, steamed raisins were on their plate on the back porch feeder, and the little gray birds were tyrants if Mother wasn't punctual.

"A couple of spoiled brats!" I grunted churlishly.

"They are *children*," Mother said calmly. Then she smiled at me sweetly. "I seem to remember that *you* weren't exactly a model child!"

Later, when she put out a saucer of table cream for them as an experiment, I threw up my hands.

"They're catbirds." I reminded her. But darned if they didn't love it! They came and wound the thick stuff around their bills and bolted it down as rapidly as possible. One day, when Mother ran out of table cream, she made the mistake of giving milk to our aristocratic friends instead. If ever catbirds cried out in anguish, we heard them on that day, nor did they subside until cream was back on their table again.

"One last rule," said our friends seriously. "If you start feeding the birds,

Photograph by C. P. Fox

HOW TO ATTRACT BIRDS

AMONG Audubon Magazine readers are many who, through the years, have learned just about everything there is to know about bird-attracting. Yet, every issue, there is a new group of readers—people who have just joined our Society, or just subscribed to our magazine, because they are seeking the kind of knowledge that they know the experienced Audubonites are glad to share.

So send us your special "hints" about bird-attracting to use in these pages. The information will be credited to the sender, unless you prefer not to have your name mentioned as is the case with the member who contributed the drawings for the squirrel-proof feeder shown on page 118. Special instructions about how to build feeders, bird houses, bird baths, contrivances for dripping water, etc., are welcomed. You can send rough sketches, which can be redrawn here in our office, but be sure to give the correct measurements even if your own sketch is not drawn to scale.

Editor's Note.

DON'T STOP FEEDING THEM, at least until warm weather is here and there is plenty of natural food available."

"Should we continue feeding them in summer?" I asked.

"We do," replied my friends. "Although birds don't require it, with plenty of insects and other foods around, they still come to our feeders. Surprisingly, many birds crave raw meat in hot weather, especially during the nesting season. Ovenbirds and downy woodpeckers bring their youngsters to our yard to feed them suet, and doughnuts attract insect-eating warblers and other birds throughout the summer."

One of the big problems facing people who feed birds is the occasional hawk or shrike which finds a concentrated food

supply of small birds exactly to its liking. Some people are never bothered at all, but others have the problem almost every winter. I like hawks and shrikes as much as other birds, but I have tried to improve our backyard environment to protect the small songsters. Properly selected evergreen trees and shrubs for escape cover are a great help. One very effective solution, if you don't mind temporary disfigurement of your backyard, is a large brushpile about 12 feet long and six feet high placed near the feeders where small birds can dart for refuge when a hawk or shrike appears. Some people keep the brushpile all through the summer, but in the spring it may be done away with and a new one built in the fall.

Some ornithologists question the wisdom of feeding birds in winter, pointing out that they are ordinarily able to take care of themselves; that a certain amount of them are doomed to die anyway; and that winter feeding is pampering of the worst kind.

Perhaps—but to question the value of free lunch counters to the birds is to disregard something which I believe is far more important. I am not thinking now of the tiny lives which may be saved from starving or freezing, only to be snuffed out later in another way. I am thinking of the contribution that the birds make to the lives of the people who feed them. Many a youngster has discarded his air rifle or .22 forever in favor of field glasses when the family started feeding the birds, and there are innumerable examples of backyard bird-feeding campaigns which brought joy and a new interest in life to housewives, convalescents and others unable to follow the birds afield.

For a year before my father died of an incurable heart ailment, he was an invalid. I shall never forget the smile on his pain-wracked face and the eagerness in his eyes as, day after day, he lay watching the birds at his window right up to the time that he died. All the grain that we can feed the birds for the rest of our lives cannot repay that debt of happiness.

W. Bryant Tyrrell, the photographer, reports that when this squirrel feeder is kept supplied with sunflower and other favorite seeds, and peanuts, squirrels seldom bother the bird feeders.



THE PRESIDENT'S

Report to You

HURRICANES are not without blessings, even if they may not so seem to those who have been so unfortunate as to suffer directly. At long last South Floridians seem pretty much of one mind that an adequate water-control plan is necessary to their welfare. At a recent hearing, conducted by the U. S. Engineers in Miami, expressed sentiment was practically unanimous in favor of a plan recently published by the Engineers, and there was rather vociferous demand that the construction work involved be started forthwith, in the hope that the people living on the inside edge of the east-coast communities might be saved prospect of possible further flood damage to their properties next summer or fall. Required federal procedure is such that it is unlikely that any such quick action will be taken and there are problems involved, not yet settled, with regard to the local share of meeting the costs of the project. Nevertheless, it would appear that this undertaking is launched successfully. Its completion would permit maintenance of a relatively stable water-level and prevention of much damage in periods of excessive rainfall and excessive drought. This would be a boon to the wild animals and vegetation of the Everglades.

We believe it most essential that this plan require that the water-level in Lake Okeechobee be kept high at all times; otherwise south Florida would not get substantial benefits, if any, in dry seasons. Moreover, we are inclined to feel that the control of operation of the system of dikes and gates—the power of decision as to water-levels and uses—will have to remain in federal hands if future scuttling of benefits, as a result of pressure from local minorities, is to be avoided.



*The great white heron is the bird on the Everglades stamp.
See letter on page 127.*

EVERGLADES LOCAL COLOR

Last issue we reported on the Everglades National Park dedication proceedings. An interesting sidelight on the attitude of local people appeared in a column by Jack Bell in the Miami Herald. He spoke of talking about the new park with many of the folks that have lived within or close to its borders for many years. He wrote:

... these folks who seem to know hoped "them engineers and city folks won't go crazy and dig a lot of canals to get gravel to build roads."

"Then how are we going to enjoy it?" asked the interloper.

"If it's drained by them canals they won't be nuthin' left to enjoy," was the curt response. And they told me how people come to kill deer and turkeys, how frog hunters have learned to use "airbuggies that'll go over the swamp

if they's only a wet dew at night, and catch too pounds of froglegs in a night."

"I know one man that caught 181 pounds of froglegs one night," a bright lad told me. "He sold 'em for 70 cents a pound. These hunters used to get \$1.25 a pound. Now mebbe we can keep 'em from killin' all the frogs in the park, anyway."

I was learning why these people who live here want the park. They know what has been happening. So I asked them how the people of America are to enjoy the park to the fullest.

"Take 'em through in airbuggies or swamp-buggies," they said in chorus. "Build as few roads as possible. Keep out the guns. Don't let 'em do anything that'll drain the swamps." And an earnest lad asked, "Mister, after the swamps start to dry and all the fish go into the canals, fillin' them too full, did you ever see the fish comin' to the surface trying to get enough oxygen to keep alive, and not gettin' it?" I was learning about many things . . .

And as I was rolling up the road from Everglades City to connect with the Tamiami Trail there was a tremendous swoosh in the water alongside the starboard rail and a seven-pound bass landed in the seat beside me.

"Say," he began, "all this talk about the new park. No more firearms. No more artificial lures. No more this, no more that; does all that talk include fishhooks, too?"

"It does," said I.

"That's all I wanted to know," he cried. Then he yelled, "It's all right, kids. Grow on."

Well, as a matter of fact, fishing in accordance with state law will be permitted in the Everglades National Park, as it is in other national parks, though hunting will not be allowed. If the above quotations are any criterion, and we think they are, people who live in the Everglades National Park area will, by and large, fully support the policies of the National Park administration.

EVERGLADES WILDLIFE TOURS

Our friends who have participated in the south Florida Audubon Wildlife Tours this winter, whether in the Okeechobee region, with Alexander Sprunt as a leader, or in the Cuthbert Lake and Florida Bay region, with Charles Brookfield and George Burrows as leaders, write as enthusiastically as ever. We have a new boat, with capacity for some 20 people, shallow

draft and broad beam, for use in Florida Bay. Secretary of the Interior Krug, with whom your president had the pleasure of flying over the Everglades National Park area immediately after the dedication exercises in December, wrote shortly thereafter:

"Audubon Tours have served a very real function in spreading conservation, and in publicizing the need for reservation of the Everglades area from commercial encroachments. The American people owe a debt of gratitude to the Tours and to their sponsor, the National Audubon Society, as a factor in the final establishment of Everglades National Park."

KRUG FIRM AGAINST OLYMPIC BOUNDARY CHANGE

Although the Department of the Interior has now, as reported to you in the last issue of the magazine, taken a firm stand in opposition to reduction of the boundaries of the Olympic National Park, considerable pressure still continues from local State of Washington sources, and those of us who do not feel that there should be any yielding with regard to existing boundaries, in the interests of the lumber companies, need to continue on the alert and let our congressional representatives know of our opinion. It was good to hear Secretary Krug say, at a conservation conference December 1st last, "I must say that as long as I am Secretary of the Interior, there will be no changes to reduce the national park or the monument areas, except where the evidence is so overwhelming, that the public interest requires it, that even a blind man and a deaf man would be convinced, and that is going pretty far. The areas are not larger than we need for our ultimate requirements, and the refinements we could make now from the point of view of administration or policing of roads, or perhaps in making available more of our resources, would not contribute much in that direction, and I think might go the limit in destroying the whole background of the park system."

LAGUNA MADRE

Elsewhere in this issue you will find an able discussion by Joel Hedgpeth of the threat to the resources of that great stretch of coastal waters in southern Texas known as the Laguna Madre: this as a result of plans for the construction of a solid causeway to connect the mainland with the outlying beach, known as Padre Island. There are additional aspects of this problem of which he does not treat. The current construction or extension of the Intracoastal Canal from Corpus Christi Bay to Port Isabel will profoundly change conditions in the Laguna Madre. It will reduce its depth and affect its salinity. It will open up to relatively easy access areas heretofore rather inaccessible. As for the bird rookeries guarded by the Society, we are deeply concerned as to the adverse affect that the construction of a solid causeway would have on the rookeries on South Bird Island, just south of Corpus Christi Bay in the Laguna. This has long been a favorite nesting ground of white pelicans and large numbers of royal and Cabot's terns. The canal will pass considerably to the west of Green Island, the principal reddish egret rookery, which lies off the mouth of the Arroyo Colorado, east of Harlingen. Disturbances at that location, as a consequence of the canal's existence, will therefore probably be negligible, but the shallowing of the waters surrounding the island, consequent upon the canal's construction, will certainly not improve conditions for the birds.

TROUBLED OIL UNDER WATER

Now the State of Texas has leased the mineral rights in the submerged lands of the Laguna Madre; it would seem that its apparent haste to do so has, in measurable part, been induced by the action of the federal government in claiming title to such submerged coastal lands. The decision of the U. S. Supreme Court on this issue did not settle the question of title, but did award to the federal government

control of coastal submerged lands. Officials of many coastal states have organized joint opposition to the policy resulting from this decision and are taking their case to Congress, where many bills on this subject have been introduced this winter. It is within the power of Congress to alter the law and, if it wishes, thus render the decision of the Supreme Court obsolete. Unquestionably, another major influence in actuating the members of the School Land Board of the State of Texas to lease these mineral rights at this time is the prevailing unusually high price of oil.

When the federal government acquired the lands which constitute the Aransas Refuge on the mid-Texas coast, where most of the few remaining whooping cranes winter, the mineral rights were reserved by private interests, which have recently decided to conduct drilling operations right in the heart of the cranes' marsh wintering grounds. These interests are entirely within their legal rights in so doing. The U. S. Fish and Wildlife Service and your Society are, at the time of this writing, actively engaged in friendly negotiations with those private interests in an effort to induce them to somewhat alter choices as to drilling sites and to take other steps to minimize possibility of pollution of any of the cranes' chosen feeding grounds or disturbance to them by the nearby presence and noise of trucks, men and drilling equipment. It seems sad that man's insatiable search for the wherewithal of life, for more and more of his kind, leads him to encroach on the last isolated tracts in which our rarest birds and other animal and plant species are clinging to life in this world.

EXPANSION OF CAMP PROGRAM

We have previously reported to you on the plan to operate the Audubon Nature Camp of California in the High Sierra next summer. Staff has been assembled and there is every indication of huge interest in this camp on the part of Californians

and those in nearby states. It will be news to many of you, however, to learn that we are also establishing this coming summer the Audubon Nature Camp of Texas, about which a brief statement appears in this issue. This camp, to be located at Kerrville on the Edwards Plateau in the "hill country" northwest of San Antonio, is not only expected to draw enrollment from Texas, but from New Mexico, Oklahoma, Arkansas, Louisiana and many more distant states, particularly in the Middle West. No doubt many of those who have enjoyed their experience at our Maine Camp and Connecticut Center will turn up at the Texas and California camps this summer.

PUBLIC RELATIONS EXPERT

We have long needed a member of the staff expert in matters of public information. George Dock, Jr., with some 30 years of professional experience of this kind, has assumed that responsibility and henceforth will handle our relations with the press, magazines, publishers and the radio and television industries. He will be authorized to issue public statements involving the Society's policy. No other members of the headquarters staff, other than the president and the vice president, with whom Mr. Dock will work in close collaboration, will be so authorized.

CANADIAN ADVANCES

Growing recognition on the part of our neighbor, the Dominion of Canada, of the importance of wildlife conservation is evidenced by the establishment of the Dominion Wildlife Service, as part of the current reorganization of the Department of Mines and Resources at Ottawa. The new unit will be in charge of Dr. Harrison F. Lewis, who will deal with questions of policy and method with reference to wildlife resources under the control of the Dominion. He will be responsible for the administration of the Migratory Birds Convention Act, the Northwest Game Act, and

the Fur Export Ordinance of the Northwest Territories. This is of good augury.

FOOD FOR THOUGHT

Director Day of the U. S. Fish and Wildlife Service has released these figures: "During the 1946-47 season 2,016,819 duck stamps were sold, the highest total for any season to date." 1,725,505 was the figure in the preceding season. "The number of hunting licenses sold reached the incredible peak of 12,066,763," declared Mr. Day, "producing a gross revenue of \$28,558,447 for the 48 states." This involved an increase in one year of 2,212,450 licenses and \$8,753,003 in revenue. He adds that "shortened work weeks, good wages, good roads, airports scattered all over the country, new high-powered guns—all of these factors have combined to provide the incentive for more Americans than ever before to seek their relaxation in hunting trips." He adds, "Maintaining a supply of game birds and animals to withstand this heavy drain is the chief problem that confronts the country's wildlife administrators today." Food for thought there!

REPORT ON LEGISLATION

The bill, H.R. 4108, to reduce the Parker River Wildlife Refuge in Massachusetts to no more than Plum Island, was objected to twice in the House and stricken from the calendar. H.R. 3487, to abolish the entire refuge, will probably not come out of committee. It is now believed there is a good chance that H.R. 3578, the so-called compromise bill, supported by many conservation groups, including your Society, may now be favorably reported and acted upon.

H.R. 1330. Congressman Barrett's bill to seriously reduce the area of the Jackson Hole National Monument in Wyoming, has also been twice objected to in the House and stricken from the calendar. Mr. Barrett has recently asked the Rules Committee for a rule to take up this bill but it seems unlikely that he will be successful.

However, S. 1951, similar bill introduced by Senator Robertson of Wyoming, is before the Senate Public Lands Committee for consideration. Senator Hugh Butler of Nebraska is committee chairman.

The existence of many private land holdings within the boundaries of national parks and monuments presents serious administrative complications, such that it seems to us most important that the federal government provide funds with which the bulk, if not all, of such private lands may be gradually acquired. Senator Butler of Nebraska has recently introduced S. 2132, designed to accomplish that purpose by providing for the appropriation of \$20,000,000 to become available at the rate of \$1,250,000 per year. The bill further provides that 25 per cent of park receipts be used to reimburse counties, in lieu of taxes, provided that in no case shall these payments be in excess of 40 per cent of the revenues derived by said counties. This provision will eliminate one of the most troublesome arguments of local communities against national parks and monuments. This bill has been referred to the Senate Committee on Interior and Insular Affairs, and should receive our support.

There are now four bills in Congress designed to reduce or prevent pollution of waters. The most satisfactory of these, as we see it, is H.R. 3990, which bans the spread of pollution from new outlets; provides for adequate federal control if and when a state has demonstrated inability or unwillingness to do its own pollution control job, and makes it clear that compliance with provisions of the act shall not be contingent upon availability of federal financial assistance. This bill is in the hands of the House Committee on Public Works, Hon. George A. Dondero of Michigan, chairman.

AUDUBON SHRINE

When John James Audubon was penniless and discouraged, Mrs. James Pirrie suggested that he come to Oakley Plantation near St. Francisville in West Feliciana

Parish, Louisiana, to teach painting and dancing to her daughter, Eliza. He was to have half his time free for exploring and drawing. Here, in 1821, Audubon spent many of the happiest days of his life and indeed referred in his Journals to the West Feliciana countryside as his "Happyland." A number of his original water colors, (according to Arthur, 26, and Herrick, 16), were produced while he was at Oakley. It was from Oakley that he fared forth to fame.

The Misses Mamie and Sarah Butler of St. Francisville originated the suggestion that the State of Louisiana buy Oakley Plantation and maintain it as a state park. To them, and to Mrs. James Leake Stirling of nearby Wakefield, representing the Alexander Stirling Chapter of the Daughters of the American Revolution of St. Francisville, credit is due for vision, indefatigable effort and persistence in promoting action by the state. In this they received wholehearted and invaluable support from the Honorable Davis Folkes of Jackson, Louisiana, Representative in the State Legislature, as well as from members of the State Park Commission. Mr. William W. Wells, Director of the Commission, informs us that it is the plan to restore the house to resemble, insofar as possible, the Oakley which Audubon saw when he first went there in 1821. He has asked Mrs. Stirling to assume responsibility for all local matters pertaining to Oakley and hopes that as soon as funds are available she may be appointed curator. This Audubon shrine will then be opened to the public with appropriate dedication exercises. It is on the route of the Natchez Pilgrimage.

It was your president's privilege to visit Oakley in December with Mrs. Stirling and Mr. Wells and to have opportunity to congratulate them, the Misses Butler and Representative Folkes. In future years, many members of the Society will doubtless visit Oakley in beautiful West Feliciana Parish, where Audubon received such great inspiration.

TURKEY FEATHERS

"**L**IFE Goes to a Turkey Feather Wedding," in the February 9 issue of *Life*, considerably stirred up the birders around the country. They had no objection to any bride wearing a gown of white turkey feathers, or having her attendants in similar gowns of pastel shades. But when the same picture-story featured the bride blushing not at all over wearing flicker and woodpecker wings, and creating hats filled with other stuffed birds, there were letters of outraged protest to *Life* and to us. George Dock, Jr., in charge of Public Information on our National Audubon Society staff, accordingly wrote *Life* the following letter which no doubt many of you saw printed, in part, on page 15 of *Life's* issue of March 1.

Gentlemen:

"Turkey Feather Wedding" (*Life*, February 9) was a weird commentary on the lengths to which some people can go to catch the eyes of the world—and the cameramen.

Several *Life* readers have written us to protest against a grim detail of your otherwise comic picture-story. The bride and her attendants are shown festooned with the wings and carcasses of flickers, woodpeckers and other wild birds. These birds are valuable destroyers of insects which menace crops, trees and gardens. A flicker, for instance, devours hundreds of ants in a day's work.

Some of the letters we have received ask why the wedding party was not clapped promptly into jail for possession of birds protected by law, and requiring a possession-permit on the part of anyone owning them. No reputable taxidermist would consider handling a "protected" bird without making certain the owner had a permit from both the State and Federal governments—usually granted only for scientific or educational purposes.

Our own impression is that *Life* has dealt a noble blow for wild-bird protection by publishing these appalling pictures. There is always the risk that the shifting dictates of fashion in Paris may again call for bird plumage. That trend would threaten the extermination of valuable or beautiful species of birds, here and in other countries. *Life* has postponed that hazard by showing plumage decorations so brutally ridiculous that no apostle of *haute couture* would be likely to embrace the idea in forthcoming styles.

GEORGE DOCK, JR.
Public Information
NATIONAL AUDUBON SOCIETY

P.S. Note: The Federal statute is Regulation 8, under the "Regulations Relating to Migratory Birds," 1947.

Reprinted from June, 1900

Bird-Lore

This excerpt from an article entitled "Songbirds in Europe and America" by Robert Ridgway throws interesting light on why the British may be more bird-conscious than we. In the intervening years, however, surely we have caught up with the British insofar as Mr. Ridgway's point (2) is concerned.

It has been repeatedly stated by writers who have had the opportunity of making the comparison, that the United States is very deficient in song-birds as compared with Europe—the British Islands in particular . . .

When we consider the unquestionable fact that in the eastern United States the number of species of song-birds is about twice as great as that belonging to the entire British Islands, there must, if the statement be true, be some reason why bird songs are so much more often heard there than here. The explanation seems to me very simple, three very different conditions which actually exist in the two countries being alone sufficient to produce the alleged result. These are: (1) the far more densely populated area of England rendering it almost impossible for a bird to sing without being heard; (2) the greater protection there afforded song-birds in thickly settled districts; and (3) the conspicuous differences of climate, the moist and cool summers of England, permitting birds to be abroad and tuneful throughout the day, while our dry and scorching summer days compel our songsters to seek shelter and repose soon after sunrise, their singing being mostly done during the early morning hours when people are sleeping most soundly!

Please send us your Sept.-Oct. 1947 issue if you have no further use for it.



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Send 10 cents each for these attractively illustrated pamphlets: "A Living Link in History," by John C. Merriam... "Trees, Shrubs and Flowers of the Redwood

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LETTERS

To The Editor:

After having had occasion recently to correct a misconception that had gone out over the airwaves concerning the identity of the stately bird shown on the Everglades National Park commemorative stamp, I now find myself in the position of the amateur who calls to order the experts. This time it is the *Audubon Magazine* of all publications which I find at fault on the same point. On page 98 of the Jan.-Feb. issue I note that you identify this bird as the American egret. Now I am certain that a second look would have told you that it was actually the great white heron (*Ardea occidentalis*).

The fact that this species is the larger of the two is perhaps not readily discernible from the picture on the stamp, but the stiff feathers protruding backward from the head should have made identification easy. Another field mark, namely the yellow-green color of the legs, in contrast to the black legs of the "long white" also should have given food for thought even after allowing for the natural limitations of a two-color print. On the stamp the legs appear in green tint but, at any rate, light rather than dark.

However, the principal reason why one should expect to see the great white heron on this particular stamp rather than any of the other herons, is no doubt the fact that its habitat is largely restricted to Florida Bay or at least to southern Florida. The additional fact that it does not commonly wander north after the nesting season proves its truly Floridian character. Early ornithologists called it the Florida heron.

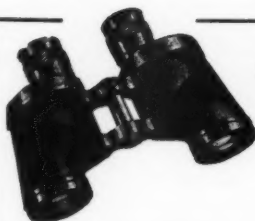
ALFRED NAGEL

New York City

THE controversy over the subject-matter of your splendid magazine, as printed in the "Letters" column of the Jan-Feb issue, interested me a great deal. However, I also must admit I'd like to see more articles about birds and "bird-men."

In the recent issue I liked especially "Eagle Man," the accounts of Alexander Sprunt, and "I Always Miss 'Em,"—this last one particularly for its humor.

Your pictures are of superb quality, but I wish you'd put the captions and photographer's names under the pictures. Often when I am in doubt about the subject I have to look here and there



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ANSWERS TO "RED BIRDS"

- | | |
|------------------------------------|-----------------------|
| 1. phalarope, crossbill | 17. egret |
| 2. tropic-bird, pigeon | 18. junco |
| 3. vireo, cowbird, towhee | 19. shearwater, goose |
| 4. warbler | 20. finch |
| 5. woodpecker | 21. spoonbill, tern |
| 6. woodpecker | 22. grosbeak |
| 7. sapsucker | 23. tanager, ibis |
| 8. sandpiper, junco | 24. flycatcher |
| 9. hawk | 25. kinglet |
| 10. blackbird | 26. hummingbird |
| 11. flicker | 27. duck, turnstone |
| 12. loon | 28. hummingbird |
| 13. merganser, sapsucker, nuthatch | 29. sparrow |
| 14. hawk, woodpecker | 30. sparrow |
| 15. booby | 31. thrush |
| 16. hawk | 32. blackbird |

ANSWERS TO ANAGRAMS

- | | |
|---------------|-------------------|
| 1. MEADOWLARK | 6. TITMOUSE |
| 2. PHEASANT | 7. WATER OUSEL |
| 3. CARDINAL | 8. BUTCHERBIRD |
| 4. PASSERINE | 9. BALD EAGLE |
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for the caption and photographer's or illustrator's name.

The crossword puzzles, brainbreakers, picture stories, etc., add variety to the magazine so I hope you retain them. On the whole I don't think I could be without your magazine.

LARRY SMALL

St. Louis, Mo.

I NOTE with respect how you have recently invited the critical comment of readers. This prompts me to express my concern at the extent to which photographs and other illustrations, excellent in themselves, now dominate the magazine. I find it hard to keep my attention fixed on the text I am reading when it is all broken up into little blocks and stuffed into odd corners between spectacular photographs that overflow the margin and run off the page. It is crowded out, overwhelmed, smothered. It is deprived of *lebenstraum*. May we not have a more balanced layout in which text and illustration complement each other, no shoving allowed?

LOUIS J. HALLE, JR.

Washington, D. C.

MAY I reprint from *Audubon Magazine* in a column in our local newspaper if proper credit is given? I am thrilled over the information you impart through the magazine, and you have wonderful pictures.

I feel that many things in the *President's Report* should be passed on to others who are uninformed on so many of these vital issues and consequently indifferent to their own welfare.

I think that many people will want to subscribe to *Audubon Magazine*, especially when they find it is not confined to birds.

ARDELLE E. HORNBACK

Plainfield, Illinois

"A Day with Alexander Sprunt" is well spent whether it is in the *Audubon Magazine* or over the flats of Bull's Island or the expanse of

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Lake Okeechobee. Members of the Society who have made the acquaintance of Mr. Sprunt have found him interested in the remarks and questions of the amateur bird watcher as well as the expert thoughts of the professional ornithologist.

GEORGE R. COOLEY

Albany, New York

FINE as *Bird-Lore* was, I like *Audubon Magazine* much more. The articles do indeed cover a wider field—but that, to my thinking, is a definite improvement. For, as I understand it, the chief object of the National Audubon Society and its organ, the *Audubon Magazine*, is to spread the interest in and love for nature, and the realization of the necessity for conservation of our wildlife heritage.

There are scientists among those who write for the magazine of course; but it is not primarily a scientific set-up. The scientists involved are giving themselves to the education of more nature-lovers, not more scientists. There are organizations and periodicals for scientists; but surely the work of the Society in its whole program of publication, lectures, nature camps and wildlife tours, is directed toward broadening the popular base of nature interest. And to me it seems as if *Audubon Magazine*, with its varied and delightfully written articles and its excellent drawings and photographs could hardly be improved for a purpose like this. Please don't change!

MARIAN W. FENNER

Cleveland Heights, Ohio

IN presenting articles on Soil, Grazing, Redwoods, City Folks, to mention only a few, you are bringing home to us the importance of preserving the natural resources of our great country so that we may save the natural habitats of our birds, and thereby have more birds and save the vanishing species.

Is there a better way to gain more friends for the birds than by broadening the magazine content to interest all nature and conservation lovers, old and young? We need the 12-year-olds as well

as the specialists. A magazine devoted only to birds, as some of your correspondents favor, will have a far smaller circulation.

I am in favor of enlarging the circle of bird lovers through a variety of subjects such as you now offer.

ELIZABETH C. FULLER

Milton, Mass.

THE Jan.-Feb. number was so fine that I was about to write the editor to say so when I began reading the frank comments in the back of the book. The policy of the present magazine is that of stimulating interest in and conservation of our natural world. I agree with that policy and would not wish this publication to become a technical magazine for ornithologists.

I am especially interested in the information about parks and refuges. Some of us realize that it is necessary to fight to hold gains already made and news of additions is very welcome.

VERNA C. BROOK

Ocean Park, Me.

THE Jan.-Feb. issue arrived in the midst of a busy afternoon and I said to myself, "I will not open, until dinner time." But I kept eyeing the thing in its manila wrapper. "Wouldn't do any harm to look at the cover," the sub-conscious whispered, "in fact it might inspire you."

Well, it was like a reunion. There was Alma Stultz, that blue-eyed angel, with whom I lived in Los Angeles in 1945. Sweet as ever, generous as ever, her zest for birds and bird-people just popping from the page. And Mrs. Comby, with whom I'd gone birding and whose gracious hospitality I had enjoyed in picnic-barbecues in her garden. In fact I saw my first bush-tit's nest in her yard.

And two pages picturing the Hadleys, my old cronies from Michigan. They who battled mosquitoes with me one May night in a marsh outside Detroit while we lay prone watching a woodcock make its courting flight.

And there was Bob Allen, whom I had never met, but was so curious to see, as I am reading his "Flame Birds" and think it superb. And John Baker, looking in perfect good health and . . .

Then I read the LETTERS!

Well, I think your magazine—with its pictures, its readable articles on the long range view of birdlife, the soil, the mammals, the roots of city and country folks alike—is wonderful!

There's the *Condor*, *Wilson*, and *Auk* for the scientific. And *Nature* and *Natural History* for the truly popular article. *Audubon* is between, it's still superior slick paper stuff and I hope it will reach a far wider reading public than it has. *Audubon* is not for the stuffy-minded but for the chap of today, the atomic 1948.

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CLEAVES has gone underwater in a tank to film diving ducks, and up in the air over the Everglades. He has hidden in a steel barrel to take flash-light pictures of wild bears. He invented a "diving suit" for his camera, and a "chandelier" of lights carried on his own shoulders for night photography. Closeups of animals who don't know they are being filmed are the specialty of this famous camera man who took his first wildlife pictures under the tutelage of Thomas A. Edison.

Cleaves wildlife pictures make the news—you've seen them, probably in your neighborhood movie theater. Harvard-trained in natural science, he was official photographer of the Pinchot Expedition to the South Seas. When he isn't up in the air or under water, he lives on Staten Island and takes wildlife pictures in a backyard only a ferry ride away from Manhattan skyscrapers.



Cleaves hides from osprey — chipmunk hides from Cleaves

Looking down from a blimp or climbing a ladder, Cleaves finds subjects for his camera. Cleaves is in the blind just above, too, only you don't see him—he is inside the blind, photographing the osprey, for his color film "Animals Unaware." Occasionally his subjects do the hiding. In "Animals Unaware" two chipmunks investigate a cantaloupe; one ends by climbing the head first.



Chipmunks photographed by Howard Cleaves in his backyard. Blind, above, photographed by Stanley DeTreville.

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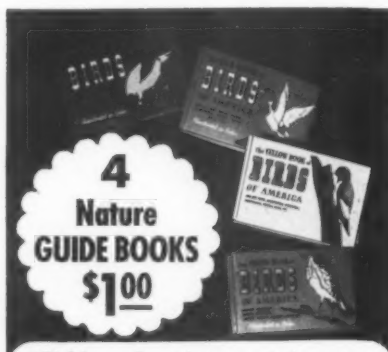
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WINTER BIRDS



1. American Goldfinch 2. Blue Jay 3. Chickadee 4. Cowbird 5. House Wren 6. Indigo Bunting 7. Kingbird 8. Mockingbird 9. Nuthatch 10. Oriole 11. P. W. Warbler 12. Red-bellied Woodpecker 13. Robin 14. Starling 15. Towhee 16. Turkey Vulture 17. Yellow Warbler 18. Yellow-rumped Cuckoo 19. Zebra Finch 20. Junco 21. House Finch 22. Junco 23. Junco 24. Junco 25. Junco 26. Junco 27. Junco 28. Junco 29. Junco 30. Junco

BIRDS OF PREY



1. Bald Eagle 2. Golden Eagle 3. Osprey 4. White-tailed Eagle 5. American Osprey 6. American Bald Eagle 7. American Golden Eagle 8. American Osprey 9. American White-tailed Eagle 10. American Bald Eagle 11. American Golden Eagle 12. American Osprey 13. American White-tailed Eagle 14. American Bald Eagle 15. American Golden Eagle 16. American Osprey 17. American White-tailed Eagle 18. American Bald Eagle 19. American Golden Eagle 20. American Osprey 21. American White-tailed Eagle 22. American Bald Eagle 23. American Golden Eagle 24. American Osprey 25. American White-tailed Eagle 26. American Bald Eagle 27. American Golden Eagle 28. American Osprey 29. American White-tailed Eagle 30. American Bald Eagle

GAME BIRDS



1. American Turkey 2. Blue Jay 3. Chickadee 4. Cowbird 5. House Wren 6. Indigo Bunting 7. Kingbird 8. Mockingbird 9. Nuthatch 10. Oriole 11. P. W. Warbler 12. Red-bellied Woodpecker 13. Robin 14. Starling 15. Towhee 16. Turkey Vulture 17. Yellow Warbler 18. Yellow-rumped Cuckoo 19. Zebra Finch 20. Junco 21. House Finch 22. Junco 23. Junco 24. Junco 25. Junco 26. Junco 27. Junco 28. Junco 29. Junco 30. Junco

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CAMP CHEWONKI

Wiscasset, Maine

Well-known naturalists formerly on the Chewonki staff include Roger Tory Peterson, lecturer, artist, and author of the renowned *Field Guide*, John Aldrich of the U. S. Fish and Wildlife Service, and Joseph Cadbury, now on the staff of the National Audubon Society's Hog Island Camp.

THE SALT WATER CAMP FOR BOYS SEVEN TO FOURTEEN

Founded in 1915, Chewonki has always been recognized as the leading camp for young naturalists, providing the same natural features afforded adults at the National Audubon Society's camp at Hog Island, Maine (25 miles from Wiscasset.)

Bird trips afield and along the ocean beaches, as well as the off-shore cruises to neighboring islands and famed Mattinicus Rock, will add to your Life List rare sea birds, as well as the more familiar shore and land birds. Our campers see the ocean birds on their island nesting colonies.

Here is the place to add to your knowledge of insects, snakes, turtles, and minerals and at the same time to enjoy sailing, swimming, tennis, and a full program of woodcraft, shop, and sports.

Founder and Director: C. E. Allen

Trustee of the Massachusetts Audubon Society
and Chairman of its Committee on Education.

For illustrated book and full particulars, address the Director at the Rivers Country Day School, 436 Heath Street, Chestnut Hill 67, Massachusetts.

Greetings

Charming paintings of birds and flowers by the Chinese artist Chang Shu-Chi decorate these folders. Printed in soft natural colors. Write your own message of greeting for Easter, birthdays, anniversaries.

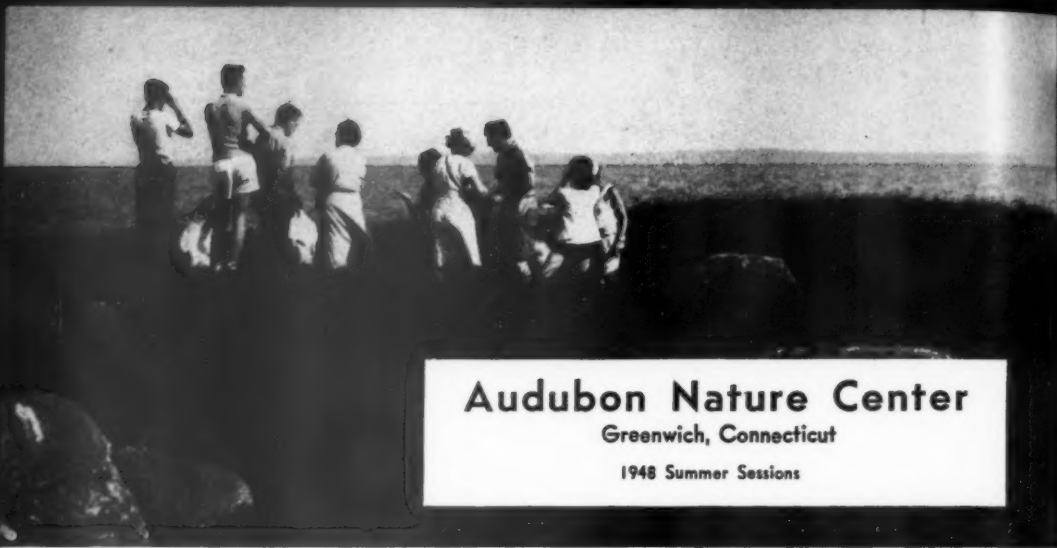


Box of ten 4" x 5 $\frac{3}{4}$ " folders with matching envelopes, one dollar postpaid.

Address your order to

Service Department, NATIONAL AUDUBON SOCIETY

1000 Fifth Avenue, New York 28, N. Y.



Audubon Nature Center

Greenwich, Connecticut

1948 Summer Sessions

A Nature Center only 65 Minutes from Broadway

At the doorway between New York City and New England, in the lovely rolling woodland and seashore area of Southern Connecticut, is the Audubon Nature Center.

On these 408 acres of forest, meadow, pond and stream, students of conservation enjoy an ideal setting for the Center's teaching program. Comfortable living quarters, attractive dining room, trail-side museum and headquarters, excellent nature library, colorful exhibits and demonstrations, and a nature trail unique in its approach to sound conservation.

Already, in only its fifth season, teachers and leaders of adult and children's groups and Garden Clubs will gather from all parts of the country to participate.

Three two-week Conservation Workshop Sessions

June 28—July 10

July 26—August 7

August 16-28

— also —

Two five-day sessions for Garden and Women's Club Conservation
and Bird Committee Personnel

July 12-16;

August 9-13

One five-day session for Girl Scout and Camp Fire Girl Leaders:

June 14-18

Send coupon for illustrated prospectus.

NATIONAL AUDUBON SOCIETY
1000 Fifth Avenue, New York 28, N. Y.

Please send illustrated folder describing the program and facilities of the Audubon Nature Center, Greenwich, Conn.

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TWO GREAT AUDUBON NATURE CAMPS

MAINE and CALIFORNIA

The first of the Audubon Nature Camps, at Medomak, Maine, now in its tenth season, has attracted hundreds of teachers, principals, counselors, school superintendents and librarians, and others interested in nature education and conservation, from all parts of the United States. Its usefulness has led to the recent establishment of other Audubon Nature Camps, for similar instruction.

MAINE—The Camp is located in Todd Wildlife Sanctuary, a beautiful wooded island in Muscongus Bay, about 60 miles northeast of Portland. An ideal site for a nature camp, with 330 acres of evergreen forest, the adja-

cent mainland and the off-shore island bird colonies, it permits study of plants, insects, marine life and land and sea birds.

Five two-week camping periods are provided:

June 11—June 24	July 9—July 22
June 25—July 8	July 30—Aug. 12
Aug. 13—Aug. 26	

For full information about the Maine camp write to—National Audubon Society, 1000 Fifth Avenue, New York 28, N. Y.

CALIFORNIA—Among the magnificent peaks of the Sierra Nevada at Sugar Bowl Lodge, Norden, California, the Audubon Nature Camp in California begins its first season in 1948. The camp is 7,000 feet above sea level, at Emigrant Pass, permitting quick journeys into the higher ridges, or by motor down to the grassland foothills, or the rim of the Nevada desert. The camp is strategically placed for the study of birds and other animals, plants and the formation of the Sierra mountain system.

Five two-week sessions are provided:

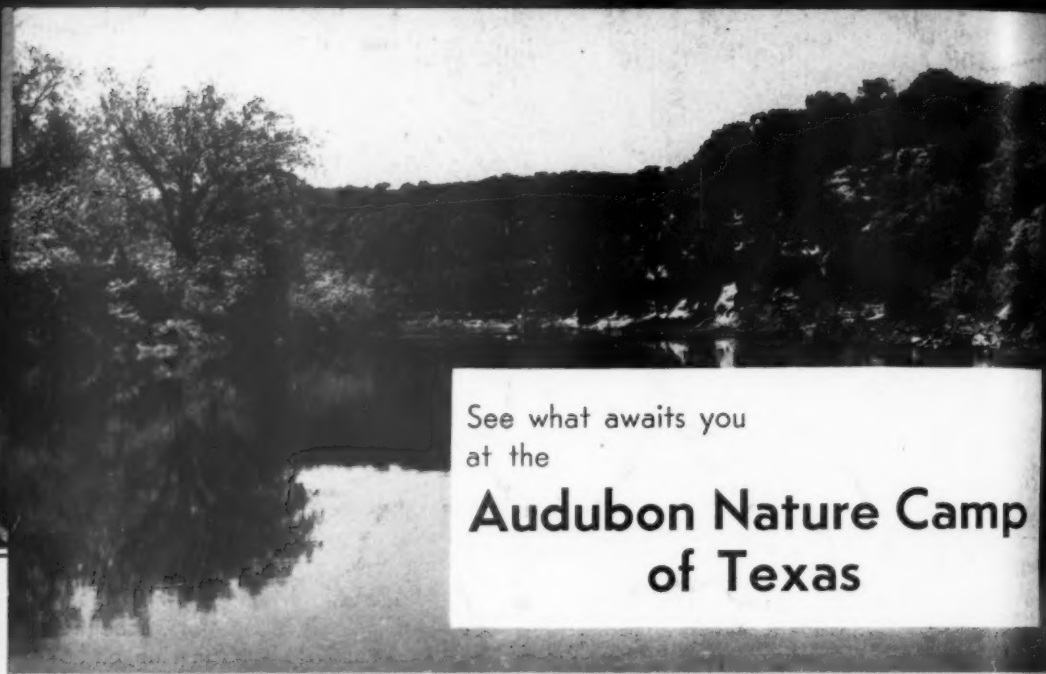
June 20—July 3	July 18—July 31
July 4—July 17	Aug. 1—Aug. 14
Aug. 15—Aug. 28	



White-crowned sparrow

For full information about the California camp write to—Mrs. Ethel E. Richardson, 887 Indian Rock Avenue, Berkeley, California.

Both camps administered by the National Audubon Society



See what awaits you
at the

Audubon Nature Camp of Texas

ON the banks of the Guadalupe River, 65 miles northwest of San Antonio, the Audubon Nature Camp of Texas will present its first summer program with five two-week sessions in 1948.

The camp will be located at Kerrville, favored summer resort of Texas—a land of green valleys, winding canyons, cypress-shadowed rivers.

It is designed to aid superintendents, principals, and teachers; colleges and schools, Scout and other youth organization leaders;

librarians, club conservation and bird chairmen to present nature and conservation subjects more effectively. The camp is sponsored by Texas Garden Clubs, Inc., and endorsed by the State Education Department, State Game, Fish and Oyster Commission, and a dozen leading educators and museum directors.

The camp will be at the Schreiner Institute, easily accessible by car and bus from all parts of Texas. Altitude 1650 ft. Average summer temperature 79.8°—with cool nights and low humidity.

Five two-week Sessions in the summer of 1948:

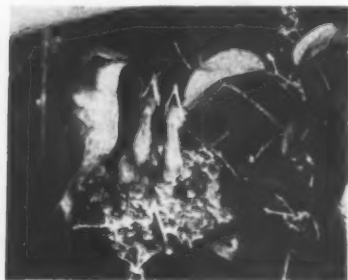
June 19—July 2

July 3—July 16

July 17—July 30

July 31—August 13

August 14—August 27



Black-chinned hummingbird above
Ring-tailed cat below



Write for illustrated folder to Mrs. Alfred A. Krueger, 5122 Tremont Street, Dallas, Texas.

Administered by the National Audubon Society.